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Report on the World Social Situation 2007: The Employment Imperative

Summary

1. The *2007 Report on the World Social Situation* is part of a series of reports on the subject dating from 1952. The main purpose of the series is to provide a foundation for discussions and policy analysis of socio-economic issues at the intergovernmental level. The following paragraphs contain a summary for the use of the General Assembly. The full report will be issued later in the year as a United Nations sales publication.

Introduction

> *We strongly support fair globalization and resolve to make the goals of full and productive employment and decent work for all, including for women and young people, a central objective of our relevant national and international policies as well as our national development strategies, including poverty reduction strategies, as part of our efforts to achieve the Millennium Development Goals.*
>
> 2005 World Summit Outcome (General Assembly resolution 60/1), para. 47.

2. Since the World Summit for Social Development, held in Copenhagen from 6 to 12 March 1995, the United Nations has underscored the role of productive employment in reducing poverty and promoting social development.

3. The notion of decent work has become part of the lexicon of work and labour analysis since it was introduced by the International Labour Organization (ILO) in 1999. Decent work for the person performing it should be satisfying, that is to say, it should promote personal development and contribute to the well-being of society as

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well as the well-being of his or her family. A society committed to the promotion of decent work would be one in which people are living in conditions of basic economic security and of equality of good opportunity to develop and apply their competencies safely, with a broadening range of economic, social and cultural rights.

4. In the first decade of the twenty-first century, the world is faced with a series of challenges with respect to work and labour. Policies should give high priority to socio-economic security, for only in a context of such security can people make choices and have the option of refusing to put up with degrading or debilitating labour.

Key findings

- In the current phase of globalization, labour markets have been evolving in the direction of greater economic insecurity and greater levels of most forms of inequality, adversely affecting the opportunity of people to live a life of decent work and satisfactory employment.
- Many of the world's youth live in poverty and a total of 130 million young people are illiterate.
- Persons with disabilities are much more likely to be unemployed or underemployed than persons without disabilities. There is a strong correlation between poverty and disability.
- Indigenous peoples are disproportionately overrepresented among the poorest of society. In most countries, unemployment rates among indigenous peoples seem to be significantly higher than the national average.
- Governments and employers around the world, in their desire to remain or become economically competitive, have taken numerous steps to increase labour-market flexibility, thereby engendering greater insecurity among most groups of workers.
- Globally, there has been a spread of informal employment and short-term contracts, giving workers fewer entitlements and little sense of security in their employment.
- The recent deregulation, privatization and marketization of social services have led to reductions in employment and income security as well as loss of voice and representation for workers providing these services.
- Standardized contracts and collective contracts are giving way to more individualized contracts based on bargaining on an individual level between employers and workers, resulting in a further shift in the balance of power in favour of employers.
- Labour security is further undermined by the globalization of financial markets and the emergence of a globalized labour supply.
- Statutory regulation is being replaced by self-regulation as part of the liberalization that has accompanied globalization, engendering greater work insecurity.

- The principle of social insurance, a component of social protection systems, is weaker in economies dominated by informal economic activities. It is unrealistic to envisage such insurance as the cornerstone of social protection in the future.

Recommendations

- Policies and strategies devised to promote full employment and decent work should also address issues of income and socio-political inequalities.
- The design of policies to promote employment and decent work also needs to reflect the demographic and social changes in society.
- Political reforms and legal provisions for achieving greater equality among ethnic groups, cultures, genders and age groups as well as for protecting immigrants' workplace rights and civil rights are also essential.
- With more and more workers in employment situations that are casual, informal and outside of standard collective contracts, either by choice or by necessity, the universality of social protection coverage becomes even more important.
- Finally, decent work for all, rather than economic growth per se, or even simple job creation, should be placed at the centre of economic and social policymaking.

Chapter I: Global employment and work

Global employment and unemployment trends

5. Between 1996 and 2006, the global labour force grew by 16.6 per cent, to 2.9 billion, which represented about two thirds of the 4.6 billion people of working age (aged 15 years or over). Over the same period, the unemployment rate worldwide rose from about 6.0 to 6.3 per cent, with the number of unemployed increasing by 34 million, to 195 million people in 2006. This increase occurred as global economic output grew, at the rate of 3.8 per cent per annum, giving rise to the phenomenon of "jobless growth".

6. It is estimated that in 2006, 1.4 billion of those working did not earn enough to lift themselves and their families above the $2-a-day poverty line, although the share of the $2-a-day working poor in total employment had decreased to 47.4 per cent in 2006, from almost 55 per cent in 1996. Significant regional differences have persisted, with East Asia experiencing the greatest reduction in the number of people living in poverty. In contrast, the number of people surviving on less than $2 a day increased in the same period in sub-Saharan Africa.

7. Global demographic forces have had a significant impact on the employment and unemployment situations. The ageing populations and declining birth rates in developed countries contrast with the younger populations and relatively higher fertility rates in developing countries. In 2005, about 84 per cent of the global labour force was found in developing countries, with Asia and the Pacific accounting for about 60 per cent of world employment.

8. The gap between men and women continued, with 49 per cent of women employed in 2006, compared with 74 per cent of men. Male labour-force participation rates dropped slightly, from 80.5 per cent in 1996 to 79 per cent in 2006. In contrast, female participation rates were 52 per cent in 2006.

9. The unemployment rate in developed economies declined from 7.8 per cent in 1996 to 6.2 per cent in 2006, owing to strong economic growth, slower growth in the labour force and increased labour productivity. In South-East Asia and the Pacific, the unemployment rate rose from 3.7 per cent in 1996 to 6.6 per cent in 2006, reflecting, in part, the lingering impact of the Asian crisis of 1997-1998. In the same period, unemployment in South Asia rose from 4.4 to 5.2 per cent despite growth of gross domestic product (GDP) of 5.8 per cent in 2005. In Latin America and the Caribbean, the unemployment rate remained at about 8 per cent during the period 1996-2006, as economic growth, averaging 3 per cent, accommodated the growing labour force. This also lowered the share of the working poor in total employment.

10. Unemployment in Africa is among the highest in the world, although unevenly distributed across countries, by gender and age groups. The unemployment rate in sub-Saharan Africa increased slightly between 1996 and 2006, having gone from 9.2 to 9.8 per cent, even as GDP grew at 3.9 per cent per annum. In the Middle East and Northern Africa, the unemployment rate declined from 13.0 to 12.2 per cent over the same period.

Sectoral changes

11. In 2006, the employment share of the service sector in total global employment reached 40 per cent and, for the first time, overtook the share of agriculture. The industry sector accounted for 21.3 per cent of total employment, a figure virtually identical to that of 1996.

12. Globally, there has been a decline of agricultural labour. The level of employment in agriculture is small and has been declining in most developed countries. It has been declining considerably in developing countries as well, partly reflecting efforts to modernize farming and to shift to more export-oriented production.

13. The modernization and commercialization of agriculture in developing countries have tended to generate greater inequalities in rural areas, with large-scale farmers and agro-industrial corporations benefiting the most. There have been positive developments in recent years, including policy reforms in many African countries extending opportunities through land reforms. Still, internationally, smallholder farmers have had their livelihoods adversely affected by agricultural subsidies and tariffs in the developed countries.

14. Deindustrialization, the tendency to shed manufacturing jobs regardless of whether manufacturing output expands, has been characteristic of developed countries since the 1980s. It has been occurring in many developing countries as well, where it is characterized by a net transfer of jobs from agriculture to services.

15. The world is rapidly becoming an economic system dominated by the service sector, in which many jobs are low-paying and precarious and are not covered by formal mechanisms of social protection. There is also a high degree of income

inequality in the sector, largely owing to the presence of a minority engaged in very highly paid professional and personal services and finance.

Jobless growth

16. Many countries and the world as a whole seem to be suffering from jobless growth, that is to say, the economy is growing without any jobs having been generated, or the number of jobs created has been diminishing for any given rate of economic growth.

17. Structural changes and increasing use of indirect (subcontracting) and casual, flexible labour, not reflected in employment statistics, may explain jobless growth. Regardless of the possible reasons, the phenomenon is unwelcome in the context of decent work as workers lose wages and/or job security in the process.

Global informalization and casualization

18. There has been an informalization of employment and work in many parts of the world. Although there is a temptation to idealize formal employment, it must be recognized that decent work lies in having some informality, with security safeguards.

19. However, informalization is closely linked to labour casualization. Labour-market restructuring has increasingly led to the spread of precarious labour relations, especially various forms of employment insecurity. Globally, there has been a spread of short-term contracts, giving workers few entitlements and little sense of permanence in their employment.

Unemployment and labour-market insecurity

20. The issue of long-term unemployment is of particular concern and it is with this form of unemployment that impoverishment is most associated, entailing, as it does, a gradual loss of networks of support, a loss of energy and willpower, and debilitation.

21. Concern about the extent and seriousness of long-term unemployment is especially prominent in Europe. In middle-income developing countries, given the lack of unemployment benefits and the need for those affected to do almost anything to survive, many of the unemployed drift into informal activities and underemployment. Whether or not national economies recover from an economic or social shock, the longer-term adverse effects on workers at the margins of the labour market may be permanent. This tendency has major implications for the design and structure of social policy interventions.

Outsourcing or offshoring

22. While globalization is involving a major movement of people, there also exists a migration of jobs. One of the most controversial aspects of globalization is the

perception that corporations in developed countries are transferring jobs to lower-income, labour-surplus countries.

23. Offshoring and outsourcing of jobs are poorly monitored and surveyed. The actual numbers claimed are only a part of the emerging challenge. It is the ex ante anticipation of possible shifts that engenders fear and insecurity among workers, rendering them more amenable to making concessions in the workplace, such as accepting lower pay and the loss of benefits.

Working time

24. Another aspect of globalization and labour-market liberalization is their impact on the level and distribution of working time. Female labour-force participation has risen all over the world, partly owing to the spread of more flexible forms of labour.

25. The growth of part-time labour has been a part of that process, particularly among the youth still pursuing some form of schooling and among older workers who remain in the labour market voluntarily or wish to do so out of economic need. This has been fostered by employment opportunities in the service sector, where part-time and intermittent work or employment is more common and working time is harder to regulate.

Concluding remarks

26. The world of work is being profoundly transformed. Sectoral shifts are themselves making the old images of full-time, single-occupation labour and employment inappropriate as guides to the future. Above all, the sense of insecurity accompanying the different forms of informality, and the lack of employment security, pose major challenges for the twenty-first century.

Chapter II: The impact of global economic and social liberalization

27. Globalization in the current era has been accompanied and reinforced by social and economic reforms in countries all over the world. The key aspects of these reforms that have a bearing on employment and the labour market are the liberalization of markets, privatization, deregulation and commercialization of social services and social protection, labour-market re-regulation and labour contracting.

Liberalization, commercialization and economic volatility

28. The growth of international trade resulting from liberalization does not lead to higher economic growth unless other, complementary policies are introduced as well. On the other hand, it does seem to increase income inequality and wage differentials.

29. Financial market liberalization, including capital market liberalization, has led to financial integration, which has limited the autonomous capacity of national

policymakers. Financial integration has also resulted in greater market volatility and intensified bank competition. Greater market volatility has led to greater fluctuations in national economies and labour markets, causing greater income and employment insecurity, particularly in smaller countries.

30. Liberalization has facilitated foreign direct investment (FDI), which has been part of a trend towards the transnationalization of production, whereby multinational corporations can switch production and thus employment from one location to another quickly and at little cost. As a result, FDI has created greater national economic insecurity.

31. Fiscal prudence has been the watchword in the past decades of economic liberalization. It requires Governments to slash social spending to levels not exceeding fiscal revenues, which have been reduced by tax cuts intending to create incentives. This has impeded social and other public spending that could have boosted growth and employment, especially in developing countries. Health-care spending particularly has suffered.

32. More generally, there has been a steady shift away from taxation of capital towards greater taxation of labour. At the same time, fiscal subsidies to capital have gone up sharply and steadily while those to labour have declined, particularly as consumer subsidies have been whittled away at in the name of removing market distortions.

33. The recent deregulation, privatization and marketization of social services have had a profound effect on labour markets in sectors of employment that had set standards of social security for several generations. An analysis of the main consequences of this transformation shows that various forms of inequality have widened. The process has affected the character of work among those providing the services as well as the welfare and work situation of many groups receiving them.

34. In their determination to remain or become economically competitive, Governments and employers around the world have taken numerous steps to increase external labour-market flexibility. This has imposed the burden of greater labour-related insecurity on most groups of workers.

35. Globally, there has also been a spread of short-term contracts, giving workers few entitlements and little sense of permanence in their employment. Standardized contracts and collective contracts are also giving way to more individualized contracts based on individual bargaining between employers and workers. This shift tilts the balance of power in favour of employers.

Migration

36. The global movement towards greater social and economic deregulation and liberalization in recent decades has also helped to facilitate migration, both within countries and internationally. Most migration is intended to better the life prospects and welfare of those who move.

37. Rural-urban migration tends to accentuate the extent of inequality and differentiation in rural areas. Labour migration from rural areas to export processing zones, much of it involving young women, often results in greater vulnerability and economic insecurity among migrant workers because of the fact that trade unions

have been banned or their activity has been severely curtailed in those zones in the interest of encouraging FDI. The "brain drain" — the migration of educated skilled professionals from developing to developed countries — has become much greater with globalization.

38. As a result of growing migration and the movement of jobs around the world within global supply chains, there are signs that a new global labour market is emerging, although international labour mobility has grown at a much slower rate than international capital mobility. While international migrants still represent only about 3 per cent of the world's population, by 2000 they had accounted for more than 10 per cent of the population in 70 countries.

39. There is a consensus that international labour migration has a beneficial effect on growth and development in both source and destination countries. However, claims for the beneficial effects have to be balanced by an examination of national circumstances. For developing countries, the most worrying form of migration is the proverbial brain drain, although the causes may have positive aspects and the consequences may be personally beneficial.

Concluding remarks

40. Globalization is transforming all labour-market systems. Increasingly, countries are being driven by the perceived imperative of competitiveness. One powerful lesson to have been drawn so far is the following: a precondition for liberalization's having beneficial effects for ordinary citizens is the establishment of institutions, legislation and regulations that can limit its adverse effects.

Chapter III: Social groups in the labour force

Work in a changing family context

41. Work has traditionally been based on a family division of labour. The family has undergone significant transformation in all parts of the world, one largely determined by economic development and demographic transitions.

42. These changes include the continuing feminization of labour, characterized by the fact that many more jobs are being taken by women, by growing job precariousness, by a convergence in the level of female labour-force participation with that of men, and by changes in the concept of wages, including the demise of the family wage.

43. Working patterns are influenced by the changing patterns of marriage, fertility, morbidity and mortality. Fertility has been decreasing in most regions, although different parts of the world are at different stages of the demographic transition. In Africa, high fertility rates have led to an increase in the number of potential workers, which requires an equivalent increase in income-earning opportunities. Africa has also been hit hardest by the HIV/AIDS pandemic. As a result, a few countries are experiencing negative population growth, and some countries have large numbers of children and very large numbers of orphans, alongside a large number of older persons. This has led to pressure on children and teenagers to find income-earning activities, and on many older people to work into old age.

44. By contrast, in some Western European countries and Japan, where the fertility rates have fallen below the population reproduction rate, two demographic developments have emerged, namely, an expanding ageing process and a shrinking population.

45. The sustained drop in fertility in Latin America requires the creation of jobs for a growing female labour supply compatible with child-rearing and educational options for young people. In many countries in Asia, the participation of women in the labour force is constrained by factors such as the lack of flexibility in careers and child-rearing and the lack of childcare facilities and home care for older persons. Policies designed to meet the demands of family life, as well as policies that provide support for the care of children and older persons, are needed.

Women: greater participation, greater risks

46. Since the Fourth World Conference on Women held in 1995, important progress in the promotion of women's economic rights and independence has been made, although deep inequalities remain. Women represent an increasing share of the world's labour force.

47. Although female employment has increased, this has been paralleled in some countries by a deterioration in the terms and conditions of employment. Women tend to be overrepresented in the informal sector and self-employment where jobs are lower-paying, less secure and less likely to be covered by social security schemes. Occupations traditionally engaged in by women pay less than jobs requiring similar skill levels but held predominantly by men. The fact that, in virtually all countries, women are overrepresented in the service sector contributes to persistent gender wage gaps throughout the world.

48. In many countries, women are disproportionately represented in casual jobs, and in consequence they are often excluded from labour statistics and overlooked by labour inspection systems. Contractualization is another related global trend that affects women disproportionately because of their weaker bargaining position and widespread preconceptions about women's commitments to their careers.

49. Since women are considered responsible for caring of children and the elderly, they often face difficulties in balancing work and family responsibilities. However, policies aimed at women (rather than at parents or caregivers) can reinforce the stereotype. Social policies and measures to facilitate the reconciliation of work and family responsibilities for both women and men should be the focus of policymakers if they intend to support women's empowerment through participation in the workplace.

Ending child labour

50. Most children are growing up in a caring family environment, enjoying family bonding, proper health care and nutrition, and enrolment in basic education. Yet, some 190 million children under age 14 are now engaged in some form of work.

51. Almost two thirds of working children live in Asia and the Pacific. However, the proportion of working children is highest in sub-Saharan Africa where more than

25 per cent of children work. Child labour is more prevalent in rural than in urban areas. Older children and adolescents are more likely to work than younger children.

52. The participation rates of boys and girls in economic activities are roughly equal, although boys typically participate more in wage work and in household enterprises, while girls tend to be involved in domestic activities. Girls begin working at an earlier age, particularly in rural areas, and frequently earn less than boys and have less control over their earnings. Girls face a triple burden of outside work, domestic chores and school, adversely affecting their school attendance and performance.

53. Recent ILO estimates point to a rapid reduction in child labour, in particular of its worst forms. The decline has largely been driven by a rapid decrease in child labour in Latin America and the Caribbean. In sub-Saharan Africa, by contrast, the absolute number of working children actually increased, partly owing to high rates of population growth and the economic hardships resulting from the spread of HIV/AIDS.

54. The root causes of child labour are complex. One of the main determinants of children's labour supply is poverty. Social norms, household size and mothers' labour-force participation, imperfect credit markets and economic incentives also affect child labour. Children also achieve recognition in the family, self-esteem and increased bargaining power through their work.

55. The main factors influencing demand for child labour are the belief that children are more docile or better able to perform certain tasks than adults, the relative importance of the informal versus the formal sector, and the prevailing production technology. Low wages paid to children also influence the demand for their labour.

56. In recent years, political consensus on the need to eliminate child labour has increased. The issue also received significant attention in the United Nations intergovernmental processes. However, effective mobilization within relevant ministries, departments and agencies at national and local levels has yet to occur in many countries.

57. Any strategy to eliminate child labour must address a wide range of causes. A crucial component of interventions to eliminate child labour is access to far-reaching social programmes that help break the vicious circle of poverty, including free education and training, safety nets, health services and income-generating measures for family members.

Youth: unemployment, inactivity and education

58. Some 1.1 billion people worldwide are young people. The vast majority of them, some 85 per cent, live in developing countries. Young people constitute about half of the total unemployed global workforce, although only one fifth of the world's population.

59. There have been very notable achievements in the area of education over past decades. However, a total of 130 million young people (roughly 1 in every 10 young persons) are illiterate. Young women are overrepresented in this group. Achievements in basic and higher education have created a better-educated

generation with high expectations when they enter the world of work. Unfortunately, in many cases, these expectations have not been matched by opportunities.

60. With their flexibility and mobility, young people in countries that have been able to profit from globalization have particularly benefited. However, for many young people in Africa, South Asia and Latin America, few real opportunities exist as a result of globalization.

61. In their policy responses, Governments tend to focus on addressing perceived weaknesses of youth in terms of their lack of skills or attitudes. Measures that regard young people as an asset should be taken, including actions to strengthen entrepreneurial and innovative skills, microcredit services for self-employment, and domestic job creation and job placement, complemented by large-scale overseas temporary work opportunities.

Active ageing and work

62. The world population is ageing rapidly, and this trend is expected to continue. The share of older persons in the global population is projected to reach 21 per cent in the year 2050, when the number of older persons in the world will have surpassed the youth population for the first time in history.

63. Over 60 per cent of older persons live in developing countries, where 50 per cent of older males and 19 per cent of older females are economically active, as compared with 21 per cent of older males and 10 per cent of older females in developed regions. The greater labour participation rates of older persons in developing countries are largely due to lack of financial support, making retirement a luxury difficult to attain. In developed countries, the sustainability of the early retirement practice of the 1980s and 1990s has come into question owing to concerns over pension liabilities, mounting old-age dependency ratios, skills gaps and potential labour-force shortages.

64. Active ageing policies are necessary to allow older persons to remain in the labour force according to their capacities and preferences. Continuous training in the workplace and lifelong learning opportunities in the community are necessary. Policy attention should also be given to public transportation and environmental hazards such as insufficient lighting, absence of handrails and irregular walkways.

Opening the world of work to persons with disabilities

65. The global population of persons with disabilities is estimated to be 650 million. There is a strong correlation between poverty and disability, as people who are living in poverty are more likely to become disabled, and persons with disabilities are more likely to be poor. About 470 million persons with disabilities are of working age. They are much more likely to be unemployed than persons without disabilities. Institutional support to facilitate inclusion and empowerment requires the provision of access to education, training and recreation, and support for employment and social participation. Strategies must be developed to reduce discrimination against persons with disabilities.

66. Considering the large numbers of persons with disabilities in the world, and the fact that 90 per cent of school-age children with disabilities in developing

countries do not attend school, it becomes imperative that persons with disabilities be mainstreamed into the international development agenda.

Indigenous peoples: working from tradition to new challenges

67. Although indigenous peoples make up only 5 per cent of the world's population, they constitute about 15 per cent of the world's poorest. For indigenous peoples, the challenge is not only how to achieve full employment and decent work, but also how to maintain their traditional occupations and lifestyles in a rapidly changing environment.

68. The loss of control over traditional resource bases has entailed the loss of traditional governance systems, customary laws and traditional knowledge for managing these resources. In addition to being adversely impacted by the reduced access to land, reciprocal ties are being further undermined by differential access to education, urbanization and the privatization of commonly held resources.

69. Indigenous peoples face discrimination in all aspects of their lives. This often hinders their access to education and employment. Discrimination in the labour market is both a significant cause and a consequence of their poverty.

70. In addition to discrimination, inadequate education systems are the second key factor in respect of the difficulties faced by indigenous peoples in employment. With little access to secondary and higher education, indigenous peoples can find employment only in low-skilled jobs where working conditions are often poor.

71. Yet, there is reason for hope. Over the past 10 years, issues affecting indigenous peoples have received increasing attention. Governments have implemented policies designed to improve labour-market prospects for indigenous peoples.

Migrants and social disadvantage

72. International migration has become a central dimension of the globalization era. Legal migrants, with valuable skills, are generally able to secure attractive salaries and good working conditions in fast-growing industries. Illegal migrants, on the other hand, tend to take on low-skill jobs under poor working conditions, even though they may be well educated.

73. While migrants often benefit from the expanded work opportunities and higher remuneration in their destination countries, many face poor conditions of work. Work insecurity is particularly severe.

74. One of the most significant changes in migration patterns is increasing migration among women. Women migrants work mostly in low-status, low-wage production and service jobs and often in gender-segregated and unregulated sectors of the economy, mainly in domestic work. They are exposed to higher degrees of exploitation, violence and trafficking.

Concluding remarks

75. In all social groups, there has been a movement towards greater participation in the labour force around the world. Many groups are increasingly ready and able to take part in work, however defined. The younger cohorts in society are staying longer in education and fewer are engaged in exploitative forms of child labour. Yet, young people's expectations are too often frustrated, paradoxically at a time when they are better prepared than ever before. Older workers expect to stay longer in the labour force; sometimes this will be out of necessity, and often by choice.

76. On the other hand, the prospects for greater participation in the labour force have been much slower in materializing for persons with disabilities and indigenous peoples. While there are certainly hopeful signs that their rights and needs are being addressed, many challenges to greater participation of these groups remain.

77. It is in the area of gender where most progress for greater participation can be reported. However, progress towards the full and equal participation of women in the labour force has often coexisted with setbacks resulting from discrimination. A similarly mixed record can be observed for migrants.

Chapter IV: Inequalities, employment-generation and decent work

Trends and types of economic inequalities

78. Income inequality within many countries has been rising since the 1980s. The share of capital in total income has tended to rise while wages and worker benefits have tended to decline in both developed and developing countries.

79. Low incomes in labour markets reflect low productivity to some extent. Yet, this regressive shift in the functional distribution of income is also partly a reflection of the forces unleashed by globalization, with a greatly increased labour supply on the one hand and greater mobility of capital on the other.

80. The growth of overall income inequality is also attributable to the increase in wage differentials. Trade openness and FDI, two among several relevant factors, have contributed to this trend. The offshoring of jobs, and the threat to transfer them, may affect wage differentials as well as labour's share of gross national product (GNP). Furthermore, casualization and contractualization have been means of lowering social income, and further reinforcing wage differentials among workers of different statuses and bargaining abilities.

Impact of inequalities on employment and decent work

81. Inequality in income and wealth can reduce the possibilities of overall growth, with negative consequences for employment-creation and decent work, as inequality can compromise social cohesion, lead to political violence and endanger government stability. In the context of securing decent work for all, social and economic policies aimed at reducing inequality have an important role to play, especially under circumstances where inequality threatens social stability in middle-income countries.

Sociopolitical inequality, economic growth and employment-generation

82. Human and social capital is essential for full employment and decent work. Income and social inequalities create deficits in human and social capital.

83. The goal of full employment and decent work cannot be achieved unless equality of opportunity and access to basic social services are ensured. Gender inequality undermines growth and employment-creation. The links are also well established between the health status of a population and economic growth and prospects for achieving decent work for all. Hunger and its manifestations lower human capital and productivity. Racial and ethnic discrimination infringes on the human rights of ethnic minorities, and it also results in inefficient use of human capital and undermines growth and employment-creation.

Income inequality is detrimental to human development and social cohesion/trust

84. Social cohesion and political stability are important for economic stability, investment and growth and, ultimately, for the health of the labour market and employment opportunities and conditions. Income inequality contributes to a political and social environment that is not conducive to decent work and full employment.

Policy directions

85. Policies and strategies to promote and generate full employment and decent work should take into account the issue of inequality, as there are linkages between inequalities and the achievement of full employment and decent work.

86. Macroeconomic policies designed to address growing income inequality and rising unemployment should weigh the advantages of progressive taxation and government social spending which often serve to supplement income sources of the poor and the working poor. In addition, the macroeconomic effects of reducing inequalities should be assessed as means of opening employment opportunities for lower-income groups. Wealth redistribution strategies, such as land reform and estate/inheritance taxation, should be more widely implemented and enforced to promote access to productive assets.

87. The design of policies to promote employment and decent work also needs to reflect demographic and social changes in society, such as the growth in the number of youth and older people, the growth of the number of households headed by single women, and the displacement of indigenous peoples. Political reforms and legal provisions for recognizing greater equality as regards race, gender, and age are also essential to raising awareness of businesses and their commitment to these objectives.

Concluding remarks

88. Global economic inequalities have increased during the past two decades and income inequality within many countries has been rising since the 1980s. High levels of economic inequalities can retard economic growth by creating political demands for redistribution. Income inequality also hurts economic outcomes and, in turn, employment-generation through its impact on social inequalities such as those based on gender, health and education.

89. There are policies and strategies that Governments can pursue to promote and generate full employment and decent work. Redistributive policies should be more widely implemented. Policies on employment and decent work should factor in political and legal reforms to ensure that such initiatives do not exacerbate inequalities in society and that they provide employment opportunities for all and protect the rights of workers.

Chapter V: Social protection, labour and work

90. Social protection plays an important role in the decent work for all agenda by ensuring income security for workers. Across the world, social protection systems are under reconstruction in the era of globalization and social and economic reform.

Health care: costs, access and "employability"

91. Health-care systems are experiencing strain in most countries, owing to demographic trends including ageing, rising costs of health care and the onslaught of communicable diseases such as HIV/AIDS, malaria and tuberculosis. The strain has also been linked to a shift in the emphasis of political rhetoric from collective social solidarity to individual responsibility.

92. Worldwide, public provision based on universal entitlement and free or highly subsidized access has been on the retreat. The crucial point of relevance to the effort to ensure decent work and employment is that a rising proportion of workers are not covered by protective measures in case of ill health, and more face rising costs.

Disability benefits

93. In part because of ageing, the number of people receiving disability benefits in developed countries has risen very substantially in recent years. This has caused policymakers to review State policy and, in some countries, has resulted in reforms that have tightened eligibility in order to encourage or induce many persons with disabilities to enter the labour market and take jobs. The introduction of activity requirements has put an increased burden on persons with impairments to prove eligibility, which affects the propensity to claim benefits. Workers with disabilities tend to be heavily disadvantaged in the labour market. A rights-based approach, as embedded in the Convention on the Rights of Persons with Disabilities (see General Assembly resolution 61/106 of 13 December 2006), represents a good move forward.

Pension reforms: are pensions dying?

94. Pension systems around the world have been in a state of turmoil with the advent of globalization. At the heart of the problem is global ageing: the rising old-age dependency ratio is making it difficult to develop or to sustain classic State-based and enterprise-based defined-benefit pensions. The future of pension systems is uncertain, but there should be a move towards increased flexibility, with more variability in the age of statutory retirement so as to allow people to choose when to retire, and to retire with higher pensions if they do so later.

Unemployment insurance benefits

95. Protection against the risk of unemployment in the form of unemployment insurance was always regarded as a central pillar of welfare States, shielding workers from the worst effects of unemployment and also acting as a macroeconomic stabilizer. Unfortunately, labour-market liberalization has been associated with the erosion of unemployment benefit systems as the number of unemployed in the world is rising.

96. Globally, the reality is that a growing proportion of the unemployed either have no access to unemployment benefits of any kind or have to demonstrate that they are "deserving" of the unemployment assistance, which is increasingly given to them on a discretionary basis, contingent on their fulfilment of specified behavioural obligations. In such circumstances, entitlement to an unemployment benefit ceases to be a social right.

From social insurance to social assistance

97. The principle of social insurance has always been the cornerstone of social security systems. However, it is automatically weak in economies dominated by informal economic activities and is being weakened further by the growth of more flexible labour relations.

98. Social assistance is also facing challenges. One of the challenges is a political one rooted in public frustration over the perceived ineffectiveness of such programmes in helping people get off welfare. However, attempts to target the needy through means-testing and to introduce incentives to encourage those receiving assistance to improve their situation have created their own problems.

The spread of individualized savings accounts

99. In various areas of social protection, Governments are encouraging the spread of individualized savings accounts that are either mandatory or subsidized by means of tax incentives, notably in the areas of pensions and health-care expenses, but also in areas such as unemployment insurance.

100. Although individualized savings accounts in all forms of social protection do not benefit the most insecure and poorest groups, they are nevertheless almost certain to figure increasingly in twenty-first century systems of social protection. Governments and their policy advisers should therefore try to ensure that those

accounts provide adequate economic security for those who cannot otherwise benefit from social protection schemes.

Concluding remarks

101. Social protection should be an integral part of society and an integral part of decent work and employment. In sickness and in health, in employment and in unemployment, all people need social protection and basic economic security.

102. While there are debates on the relationship between social spending and growth, a consensus seems to be emerging that the State should provide a universal floor of social protection upon which social insurance, private insurance and other schemes can be built. However, the increasing exertion of pressure on the poor, the economically insecure and the otherwise disadvantaged to behave in ways that the State determines to be socially desirable, is cause for concern. Such schemes tend to create poverty and unemployment traps.

Chapter VI: Demand-side employment schemes

103. In both developed and developing countries, Governments have promoted employment directly through various special measures designed to create demand for labour. However, they have given less attention or fewer resources to measures designed to promote decent work.

Employment subsidies

104. Employment subsidies, whereby employers are offered financial support for the extra jobs they create, account for a large share of expenditure on active labour-market programmes in many countries members of the Organization for Economic Cooperation and Development (OECD). Most employment subsidies are aimed at specific target groups, such as the long-term unemployed, less-skilled, low-wage workers, youth, older persons and persons with disabilities. By targeting the more vulnerable groups, they counteract social exclusion. Such subsidies also contribute to the reduction of long-term unemployment. However, they do tend to discriminate against older, well-established firms in favour of new, growing firms, thereby limiting their impact.

Social funds

105. Social funds have been promoted as effective means of generating employment and economic activity in developing countries. Yet, despite favourable World Bank assessments, social funds are no longer seen as powerful mechanisms for fostering community development and generating sustainable livelihoods. Increasingly, these funds are shifting from public infrastructure to "human capital" development schemes.

Micro-insurance and microcredit schemes

106. Microfinance and microcredit have become hugely popular as development tools, since access to financial services by the poor is very important to their economic and social empowerment. It has been proved that microfinance helps create jobs, empower women and reduce vulnerability. It not only helps the poor to increase their incomes, but also contributes to the equitable distribution of the benefits of economic growth.

107. The main criticisms of microcredit schemes concern their sustainability, limited scope and difficulties with management. Some also question their ability to reach the very poor.

Food for work and cash for work

108. Food for work and cash for work are direct measures designed to boost employment and respond to emergency needs. The primary claim is that such schemes effectively target the poor since they are self-selecting and relatively easy to legitimize among the middle class. However, such schemes may not be the most appropriate policy for promoting livelihoods or decent work, and they often lack gender-sensitivity.

Public works

109. Public works programmes have developed into a major policy instrument through which to create employment in situations of high or chronic unemployment and underemployment, as well as to minimize consumption shortfalls in times of crises such as famine or drought. Public works projects create public goods and exercise a political function by helping to relieve social discontent through highly visible projects ensuring a certain minimal income for the poor.

110. While public works may successfully address transitory crises and threats to livelihoods, political considerations do often influence choice and location. To improve their effectiveness, the wage rate should be set at higher levels so as to ensure social protection without causing serious labour-market distortions. Programmes should generate productive assets benefiting the poor. Local governments should be empowered in respect of planning and managing these projects.

Concluding remarks

111. Special job-creation measures appeal to politicians because by introducing them, they portray themselves as being actively engaged in addressing unemployment and labour-market failure. Different schemes are suitable in different circumstances and involve different levels of administrative and monitoring costs. A common determination, however, is that there should be proper targeting under various schemes so as to reach the poor and women. Important lessons have been learned from projects in many countries.

112. Demand-side measures to create employment, as implemented so far, have not been sufficient to fulfil the decent work agenda. A more comprehensive approach which could include some existing demand-side measures, rather than one narrowly focusing on employment-creation, is needed to promote decent work for all.

Chapter VII: Policy priorities for employment and decent work

113. If decent work is to become more than a slogan, it must encompass much more than the call for a greater number of jobs of any kind. Generating employment, albeit desirable in itself, must be consistently undertaken with respect for decent working conditions. A key challenge concerns the need to enhance basic socio-economic security for all.

The need for voice

114. Without voice, workers have few options other than opting out of their work situation or reluctantly accepting it for fear of the alternatives. In times of high unemployment, workers have to put up with poor conditions or low incomes or risk the welfare of their families. Having voice alters that position.

115. Labour laws were fashioned in accordance with the situation of workers in a fixed worksite who were in a direct long-term employment relationship involving legally recognized employee status. Aside from securing minimum standards for people doing all forms of work, perhaps the biggest challenge for workers in the twenty-first century is recognizing the need for and developing new forms of voice in response to the complex realities of more open, flexible labour markets and the exertions of pressure to perform various types of work. In this context, independent workers' associations are essential for decent work, even if some need to change their ways.

116. Part of the necessary reorganization in respect of having voice encompasses institutional governance, entailing the need to give work greater priority in social policymaking and policy evaluation. Viable institutions include national councils for work and negotiated social compacts between workers' bodies, employers and Governments.

Informalization and the response

117. Labour-market flexibility and other processes of economic liberalization mean that many more workers are in relatively informal statuses. Social and labour-market policies have to adapt to these realities.

118. The most important needs for workers in informal status are basic income security and basic voice security. All businesses should be required to formally register with the authorities in a simple and low-cost manner. The assets of those producing informally should be registered as entrepreneurial property, thus providing proper legal status to those assets. There should be a campaign to ensure that there are written contracts for all workers, because only those with written agreements can be effectively protected by labour or common law. Simple written

contracts, setting out the basic conditions of pay and working arrangements, are a necessary, if not sufficient condition for turning informal labour into decent labour.

Labour rights revisited

119. The right to work means the right of people everywhere to pursue their livelihoods in freely chosen activities. People in all types of society cannot be expected to pursue a life of work unless their lives are grounded in basic social and economic security. With globalization, inequalities and insecurities have undermined the principles of universalism and social solidarity.

120. Social protection systems need to adapt to more flexible labour-market conditions in order to provide economic security to all workers. With more and more workers in employment situations that are casual and informal and that are not covered by standard collective contracts, whether by choice or by necessity, universality of coverage becomes even more important.

Policy priorities for moving forward

121. The challenges for decent work in the twenty-first century are great. While traditional models and mechanisms for achieving voice representation, economic security and full employment are proving inadequate in the era of globalization and increased labour-market flexibility, new approaches are being explored. The international community and national Governments and their civil society partners need to work collaboratively to move forward the agenda of promoting productive and decent work for all.

122. First, it is worth reiterating that decent work for all, rather than economic growth per se, or even simply creating jobs, should be placed at the centre of economic and social policymaking.

123. At the international level, cooperation and coordination among countries are needed to counteract the pressures of a "race to the bottom" in the global competition for investment and trade advantages. Sharing of experiences and international coordination of social and economic policies will also contribute to the exploration of means to meet the collective challenges of creating productive employment and decent work for all in the twenty-first century.

124. At the national level, social and economic policies, and even institutions, need to adjust to the new realities and demands of a globalizing world. It is critical that reform of social protection systems in developed countries and the expansion of such systems in developing countries aim at ensuring economic security for all in the more flexible labour market.

125. In many countries, policy measures to reduce inequality should be pursued in conjunction with those aimed at stimulating economic growth in order to ensure a more equitable distribution of the benefits of growth.

126. Government-supported demand-side employment schemes also need to be rethought and put into the context of decent work, instead of being viewed simply as job creation measures.

127. Policy measures should also be implemented to further remove barriers to participation in the labour force and to facilitate access to decent work for all social groups. All policy measures should take into consideration the ongoing demographic and social changes that are shaping the world of employment and work.

128. Civil society and the private sector can also play important roles in fostering decent work for all, through the promotion and monitoring of schemes such as corporate social responsibility.

Concluding remarks

129. It is in this, the twenty-first century, that economic, social and cultural rights should come into their own. The world has the resources, wealth and knowledge to make this a reality.

130. Globalization entails more uncertainty and insecurity for workers and for communities that rely on work and labour to procure their livelihoods — in other words, for most people. There are benefits from economic liberalization and globalization, but at the same time there are powerful negative effects and changes. Policymakers have yet to come to terms with this reality, and have yet to devise strategies to check the growing inequalities of recent years.

131. Work should be an important means of gaining self-respect as well as dignity, and of reaffirming human identity. Productive and decent work and poverty eradication are essential to ensuring the exercise of the fundamental human rights and freedoms enshrined in the Universal Declaration of Human Rights (General Assembly resolution 217 A (III)) and to meeting the Millennium Development Goals. Decent work for all is not a policy option, but an imperative for the twenty-first century.

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Oceans and the law of the sea

Report on the work of the United Nations Open-ended Informal Consultative Process on Oceans and the Law of the Sea at its eighth meeting

Letter dated 30 July 2007 from the Co-Chairpersons of the Consultative Process addressed to the President of the General Assembly

Pursuant to General Assembly resolutions 54/33 of 24 November 1999, 57/141 of 12 December 2002 and 60/30 of 29 November 2005, we were appointed as the Co-Chairpersons of the eighth meeting of the United Nations Open-ended Informal Consultative Process on Oceans and the Law of the Sea.

We now have the honour to submit to you the attached report on the work of the Consultative Process at its eighth meeting, which was held at United Nations Headquarters from 25 to 29 June 2007. A summary of the discussions held during the eighth meeting is set out in part A of the report. Part B contains information on additional issues that have been proposed for inclusion in the list of issues that could benefit from attention in the future work of the General Assembly on oceans and the law of the sea. Annexed to the report are the Co-Chairpersons' possible elements on marine genetic resources, the topic of focus of the meeting, to be suggested to the General Assembly for consideration under its agenda item "Oceans and the law of the sea". They have been proposed by the Co-Chairpersons in the absence of the agreed consensual elements referred to in paragraph 6 (a) of the format and annotated agenda for the eighth meeting (A/AC.259/L.8).

We kindly request that the present letter and the report of the Consultative Process be circulated as a document of the sixty-second session of the General Assembly under the agenda item "Oceans and the law of the sea".

(*Signed*) Lorraine (Lori) **Ridgeway**
Cristián **Maquieira**
Co-Chairpersons

* A/62/150.

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Part A

Co-Chairpersons' summary of discussions

1. The eighth meeting of the United Nations Open-ended Informal Consultative Process on Oceans and the Law of the Sea met from 25 to 29 June 2007 and, pursuant to General Assembly resolution 61/222, focused its discussions on the topic of marine genetic resources.

2. The meeting was attended by representatives of 105 States, 15 intergovernmental organizations and other bodies and 12 non-governmental organizations.

3. The following official supporting documentation was available to the meeting: (a) report of the Secretary-General on oceans and the law of the sea (A/62/66); and (b) format and annotated provisional agenda of the meeting (A/AC.259/L.8).

Agenda items 1 and 2: Opening of the meeting and adoption of the agenda

4. The meeting was opened by the two Co-Chairpersons, Cristián Maquieira (Chile) and Lori Ridgeway (Canada), who in their introductory statements highlighted the key challenges in regard to marine genetic resources and outlined the programme of work of the eighth meeting as well as their proposals on the organization of work. They called attention to the voluntary trust fund established for the purpose of assisting developing countries, in particular least developed countries, small island developing States and landlocked States, in attending meetings of the Consultative Process and strongly encouraged States to make contributions to the fund, which, as of the eighth meeting, was devoid of funds.

5. The meeting adopted the format and annotated provisional agenda of the eighth meeting and approved the proposed organization of work.

Agenda item 3: General exchange of views on areas of concern and actions needed, including on issues discussed at previous meetings

6. Item 3 was divided into two plenary meetings. Delegations first focused their interventions on the topic of marine genetic resources and then exchanged views on issues other than those relating to the area of focus, e.g., issues discussed at previous meetings.

7. The discussions on the area of focus that took place during the plenary meetings and within the panels are presented in paragraphs 21 to 108 below.

8. In the course of the discussions delegations also focused on the report of the Secretary-General on oceans and the law of the sea, the Consultative Process and other issues.

9. A number of delegations expressed their appreciation to the Secretary-General for his report and for the work of the Division for Ocean Affairs and the Law of the Sea acting also as the secretariat of the Consultative Process.

10. They highlighted the comprehensive nature of the report and the particular importance of the chapter on marine genetic resources for the discussions at the meeting. Some delegations also commented on specific paragraphs of the report (see para. 54 below).

11. Concerning the Consultative Process, several delegations proposed starting the preparations for the next meeting earlier since the topic had already been decided on by the General Assembly — a position shared by the Co-Chairpersons (see para. 119 below). They suggested that the Co-Chairpersons be appointed as soon as possible by the President of the General Assembly so that the preparations for the meeting, including the identification of panellists, could begin as soon as possible. Early planning would also allow States, in particular developing States, enough time to propose panellists so as to ensure more equitable geographic representation. In this regard, the Co-Chairpersons underlined the difficulties they had experienced in securing panellists for the topic of the eighth meeting, including travel-related difficulties and lack of funding for participants from developing States.

12. Some delegations underlined that the Consultative Process had over the years become a forum that had increased substantially the understanding of the international community of cross-cutting issues and assisted in promoting greater inter-agency coordination and cooperation in addition to facilitating the negotiations of the General Assembly resolutions on oceans and the law of the sea and on sustainable fisheries.

13. Other delegations, however, regretted that the negotiations of the elements on the last day of the meeting of the Consultative Process were always protracted and disadvantaged small delegations or those who could not be present during the entire time of the negotiations.

14. Other issues that were raised under agenda item 3 included piracy and armed robbery against ships; the rescue of persons in distress at sea; and the adoption of the International Convention on the Removal of Wrecks. The representative of the International Maritime Organization (IMO) suggested that developments with respect to these and other IMO activities should be reflected in the forthcoming General Assembly resolution on oceans and the law of the sea. He also restated previous IMO calls for States to become parties to relevant IMO conventions not yet in force. The work of IMO to prevent piracy and armed robbery off the coast of Somalia against ships carrying food aid to Somalia under the auspices of the World Food Programme (WFP) was particularly highlighted. The representative of IMO reported that in view of the recent increase in acts of piracy and armed robbery, the Secretary-General of IMO, in consultation with interested parties, was taking action to formalize and strengthen further the coordination mechanism.

Area of focus: Marine genetic resources

15. Marine genetic resources were discussed in depth in three panel segments (with two segments consisting of two parts), as well as in the plenary (agenda item 3). The discussions in each of the panel segments were launched by panellists. Abstracts of most panel presentations were posted on the website of the Division for Ocean Affairs and the Law of the Sea in advance of the meeting, together with the Co-Chairpersons' guidelines/possible perspectives for the discussion panel. Available panel presentations and abstracts thereof can be consulted at www.un.org/depts/los/consultative_process/consultative_process.htm. Each of the panel segments comprised four, and in one case five, presentations, followed by discussions during which participants requested clarifications from the panellists or made statements regarding the presentations or their implications.

1. Panel presentations

16. The first segment, "Understanding marine genetic resources, their vulnerability and the services they provide", demonstrated poignantly the scope and dynamism of activities related to understanding marine genetic resources and where they — and information about them — are found, which generally challenged traditional notions of biodiversity and its vulnerability. Frank Glöckner, Head of the Microbial Genomics Group at the Max Planck Institute for Marine Microbiology and Jacobs University, Germany, explained and demonstrated how marine micro-organisms were superabundant and the gatekeepers of the world's biogeochemical cycles. Cultivation of small samples of organisms could be amplified in the laboratory, which only worked in about 10 per cent of cases. Alternatively metagenomics could directly extract and clone DNA from biomass. Curtis Suttle, Associate Dean of Science at the University of British Columbia, Canada, explained that oceans represented a vast reservoir of unexplored and very dynamic genetic diversity, in particular at the microbial level (including viruses), although the distribution, composition and diversity of different genetic information was largely unknown and required considerable public research which, to date, had not been a priority for Governments. Libby Evans-Illidge, Manager of the Bioresources Library at the Australian Institute of Marine Science, described various widely available sources of data on marine genetic resources including aquatic sciences and fisheries abstracts (www.csa.com/factsheets/aquclust-set-c.php), the United Nations Atlas of the Oceans (www.oceansatlas.org), GenBank (www.ncbi.nlm.nih.gov/Genbank/) and the Ocean Biogeographic Information System (www.iobis.org) and concluded that integrated informatics was a powerful, ideal data-mining tool to assess and understand marine genetic resources. David Rowley, Assistant Professor of Pharmacognosy at the University of Rhode Island, United States of America, provided examples of services provided by marine genetic resources, from regulating the carbon cycle and oxygen production and ecosystem stability to drug discovery and industrial applications. He concluded that further development and understanding of these services was required, taking into consideration the conservation of marine ecosystems, access to remote environments, cross-disciplinary collaboration among scientists and engineers and knowledge-sharing through open-access databases.

17. The first part of the second segment, "Understanding the activities related to marine genetic resources and other relevant aspects: experiences in collection", showed potential common interests in the area of collection. Sophie Arnaud-Haond, of the French Research Institute for the Exploitation of the Sea, described the processes and challenges involved in research associated with deep sea ecosystems, in particular hydrothermal vents ecosystems. She stressed the need to continue scientific research in order to enhance knowledge of the ecology and dynamics associated with these ecosystems; to support conservation of these ecosystems; and to explore biotechnological applications. Marcia Creary, Environmental Data Manager at the Caribbean Coastal Data Centre, Centre for Marine Sciences, University of the West Indies, Jamaica, described the experience of Jamaica as a small island developing State in building its capacity to understand, exploit and conserve its marine genetic resources, and the challenges and opportunities involved, including the preoccupations with other basic economic and social priorities. She presented Jamaica's experience in the collection of marine genetic resources, its relevant national policies, primarily regarding their export, and its

programmes and institutions. John N.A. Hooper, head of the biodiversity and geosciences programmes at the Queensland Museum and Adjunct Professor at Griffith University, Australia, described the steps already taken in Australia to establish an enabling regulatory framework for "bioprospecting", and the benefits for coastal and researching States as well as various public and private actors. He stressed the importance of capacity-building, in particular in the field of taxonomy (see also para. 101 below). Emma Romano Sarne, Third Secretary at the Permanent Mission of the Philippines to the United Nations, delivered a paper prepared by Maria Rowena R. Eguia, Researcher in the Aquaculture Department of the Southeast Asian Fisheries Development Centre in the Philippines. The presentation described research activities, national policies and laws (e.g., the law regulating access to genetic resources) and challenges relating to the access, utilization and management of marine genetic resources in the Philippines. She also addressed problems of illegal extraction and use of marine organisms and associated traditional knowledge, which she referred to as "biopiracy".

18. The second part of the second segment, "Understanding the activities related to marine genetic resources and other relevant aspects: experiences in commercialization", demonstrated the realities of the commercialization cycle and its risks. Geoff Burton, Principal Consultant in genetic resources management at Jean Shannon and Associates, Australia, described the changing business environment in commercialization and the rise of small, specialized biotechnology companies, and the synergy between commercialization and public research activities. He concluded that Governments could help companies to manage legal and commercial risk and attract investment by providing legal certainty for collection and reliable taxonomy. Marc Slattery, Associate Professor of Pharmacognosy and Research at the University of Mississippi, United States, emphasized the tremendous potential of marine genetic resources in biotechnology applications, such as public health and food security, and other direct and indirect benefits for society, but underscored the significant investment needed and the risks involved in the discovery and launch of marine pharmaceuticals. Maureen McKenzie, Chief Executive Officer of Denali BioTechnologies, United States, presented experiences in nutraceuticals and successful partnerships with Alaskan native communities in the commercialization of traditional subsistence resources, and highlighted as key elements of such partnerships the role of recognition of local rights to resources, self-imposed corporate ethical standards and social responsibility and mutual participation in the economic benefits from commercialization, including shared intellectual property. Simon Munt, Medicinal Chemistry Manager, Research and Development, PharmaMar, Spain, described his company's work in the discovery and development of marine-derived bioactive compounds to enhance cancer care, which had led to the discovery of new families of bioactive compounds and novel chemical structures. He emphasized the long and high-risk commercialization cycle and the need for research investment, legal certainty and access and benefit-sharing.

19. The first part of the third segment, entitled "International cooperation and coordination on issues related to marine genetic resources: current activities at the global and regional levels", provided an overview of current activities with respect to marine genetic resources in various international forums. Jihyun Lee, Environment Affairs Officer with the secretariat of the Convention on Biological Diversity, described the activities of the secretariat related to the conservation and

sustainable use of marine genetic resources, highlighting the role of the Convention in providing scientific and technical information. Rama Rao, Deputy Director of the World Intellectual Property Organization (WIPO) Coordination Office in New York, described the work of WIPO on genetic resources and intellectual property, in particular the work of its Intergovernmental Committee on Intellectual Property and Genetic Resources, Traditional Knowledge and Folklore, highlighting issues related to patent protection for inventions based on genetic resources, work on disclosure-of-origin requirements and the relation between patents and benefit-sharing. Anthony Ribbink, Director of the Sustainable Seas Trust and African Coelacanth Ecosystem Programme of the South African Institute for Aquatic Biodiversity, presented an example of regional cooperation and coordination for the conservation and sustainable use of ocean resources, catalysed by the existence and protection of the coelacanth in the western Indian Ocean, highlighting challenges faced by African countries in terms of capacity-building and sustainable development of coastal communities. Margaret Tivey, Associate Scientist for Marine Chemistry and Geochemistry at the Woods Hole Oceanographic Institution, United States, described the promotion by the InterRidge Organization of responsible research practices at deep-sea hydrothermal vents, including through the adoption of a voluntary code of conduct developed by scientists for scientists.

20. The second part of the third segment, "International cooperation and coordination on issues related to marine genetic resources: current and future challenges", identified priorities for action in relation to marine genetic resources. Harlan Cohen, Advisor on Ocean Governance and International Institutions at the World Conservation Union, explained the challenges facing the conservation and sustainable use of marine genetic resources, highlighted some principles that could be applied and described lessons drawn from existing practice at national and international levels. Marcos L. de Almeida, Law of the Sea Adviser at the Ministry of Defence of Brazil, presented a paper prepared by Cassiano Monteiro Neto, Researcher and Professor at the Marine Biology Department of Fluminense Federal University in Niteroi, Brazil. He described the current state of knowledge and legal framework regarding marine genetic resources, including in Brazil, and suggested areas where there was a need to clarify the regime applicable to those resources. Timothy Hodges, Co-Chairman of the ad hoc open-ended working group on access and benefit-sharing of the Convention on Biological Diversity made a presentation also on behalf of his Co-Chairman, Fernando Cassas, in which he described the issues and opportunities surrounding capacity-building and transfer of technology related to marine genetic resources. Sam Johnston, Senior Research Fellow at the Institute of Advanced Studies of the United Nations University, described the state of "bioprospecting" in the Antarctic region as well as the structure and functions of the Antarctic Treaty System in relation to marine genetic resources and the lessons to be drawn from that experience. Lisa Speer, Director of the Water and Oceans Programme of the Natural Resources Defence Council, United States, described the threats to marine genetic resources located in areas beyond national jurisdiction and highlighted measures that could be taken to ensure their conservation and protection.

2. Discussions

21. Scientific, technical, economic, environmental, legal and socio-economic aspects of marine genetic resources were raised during the discussions both in the

plenary meetings and within the panels. Delegations highlighted the need for marine scientific research on marine genetic resources and sharing and dissemination of the results of such research; the services provided by marine genetic resources in the regulation of the planet's biogeochemical processes and the benefits from commercial and other industrial applications; the socio-economic implications related to the use of marine genetic resources; the relevance of incentives for the conservation and sustainable use of marine genetic resources; and the capacity-building needs of developing countries and transfer of technology. The need for cooperation among the various organizations that are dealing with marine genetic resources was also underlined.

22. Several delegations expressed the view that the Consultative Process should focus its discussions only on marine genetic resources in areas beyond national jurisdiction. They also underlined that their participation in the eighth meeting of the Consultative Process should not be interpreted as any recognition on their part of the conformity of current activities in areas beyond national jurisdiction with international law. In response, some delegations expressed their preference for focusing the discussions on marine genetic resources in areas within national jurisdiction.

(a) Understanding marine genetic resources and the services they provide

23. It was generally recognized that oceans are characterized by a very high diversity, abundance and dynamism of micro-organisms and many of their habitats (e.g., vents, cold-water seeps). They are the most genetically diverse marine organisms and dominate the oceans' biomass. The diversity of marine macro-organisms is also high. While the greatest — and most accessible — diversity is present in coastal areas, other areas are highly diverse.

24. With regard to areas within national jurisdiction, it was noted that recent discoveries had underscored a wealth of unexplored marine diversity. The view was expressed that marine scientific research on those resources was essential to exploit the great potential for scientific discovery and the relative cost advantages of conducting research closer to shore.

25. The dynamism of biodiversity was contrasted with traditional views of the possibility of little or no biodiversity in the deep seas. The representative of the Intergovernmental Oceanographic Commission (IOC) of the United Nations Educational, Scientific and Cultural Organization (UNESCO) recalled that two thirds of the oceans' area was beyond national jurisdiction, and that recent advances in technology had permitted the documentation of the rich biodiversity of deep-sea ecosystems and of the footprint of human activities in those remote areas.

26. Several delegations noted that there were different interpretations of what marine genetic resources were. Furthermore, the distribution, composition, diversity, vulnerability, resilience and functions of marine micro-organisms were still largely unknown. While the knowledge related to marine genetic resources had increased in recent years, more research was needed to advance our understanding of the vast reservoir of unexplored marine genetic diversity.

27. Delegations also noted that there was a wide range of users of marine genetic resources with different objectives and that those resources have great potential to contribute to meeting economic, environmental and social needs.

28. It was observed that attempts to develop methodologies for determining the value of marine genetic resources were ongoing, including in the Organization for Economic Cooperation and Development.

29. Delegations underlined the numerous supporting, regulating and provisioning services provided by marine genetic resources. They are critical to the functioning of the planet, being, in particular, the drivers of its biogeochemical cycles. For example, half of the Earth's oxygen is produced by marine microbes and they have a role in carbon cycling and ecosystem stability. In addition, micro-organisms can potentially yield many benefits through the commercialization of products in the industrial, medical and agricultural areas.

30. Several delegations noted that genomes, which are important to the natural cycles and health of the world's oceans, may hold keys to new medical and industrial processes and products. Some micro-organisms found at vent sites were currently used in foods and pharmaceuticals and important other discoveries could be made in the future.

31. It was underlined that marine genetic resources are critical in confronting the many environmental and socio-economic challenges for the food and agriculture sectors, including fisheries and aquaculture. Reference was made to the important role played by fish genetic resource management in the development of responsible aquaculture, and ecosystem-based management of responsible capture fisheries. Delegations were informed that the Food and Agriculture Organization of the United Nations (FAO) had established an intergovernmental Commission on Genetic Resources for Food and Agriculture. The Commission, counting more than 170 Member States, had held a workshop in 2006 on the status and trends in aquatic genetic resources. FAO was developing a workplan for advancing the issue of marine genetic resources in that context.

32. Some delegations considered that the greatest benefits from marine genetic resources could be measured in the expansion of knowledge and enhancement of the global understanding of the biogeography and taxonomy of deep-sea marine biodiversity.

33. Several delegations expressed the view that all mankind should be able to benefit from the long- and short-term benefits associated with the discovery of drugs, as well as other direct and indirect benefits. In that regard, the need for marine scientific research on marine genetic resources and appropriate and effective benefit-sharing arrangements was underscored.

(b) Marine scientific research on marine genetic resources

34. Several delegations pointed to the need for further marine scientific research in order to expand the knowledge on marine genetic resources, the environment in which they are found and the impact of activities related to marine genetic resources.

35. It was observed by several delegations that most marine scientific research activities were being conducted in shallow coastal waters where biodiversity was both highest and accessible, given difficulties associated with deep-sea research, including the need for advanced technology, equipment and significant financing. However, it was noted that deep-sea collection was increasing, in particular with regard to micro-organisms, given their potential in future commercial products.

Some delegations especially identified hydrothermal vents as ecosystems needing further research to understand their complexities.

(i) Partnerships

36. A number of delegations acknowledged that marine scientific research related to marine genetic resources was a costly and time-consuming activity being undertaken by both the public and private sectors, but more often, through partnerships between those sectors. It was noted that partnerships were important for the development of activities related to marine genetic resources, which required different technical expertise and specialized knowledge, including traditional knowledge.

37. It was thus emphasized by several delegations that public-private partnerships and international cooperation should be encouraged, in order to alleviate, inter alia, the heavy costs of marine scientific research. Partnerships between coastal and researching States or between coastal States and the private sector could offer important advantages, both financial and scientific, including increased knowledge of the coastal State's marine ecosystems and resources. Synergy and cooperation at the international level were therefore considered important in addressing the challenges posed by marine genetic resources. A suggestion was made that international organizations could play an important role in fostering such collaboration by, inter alia, organizing joint research projects. The European Organization for Nuclear Research and joint research projects organized by the European Union were cited as examples.

(ii) Data and information-sharing

38. Several delegations emphasized scientific information-sharing in relation to marine genetic resources as a critical issue and called for simplified access to the results of research, which could contribute to the protection of the marine environment and benefit-sharing. It was noted that the laws of some countries required researchers to add information regarding discoveries in databases before they could be published. Several delegations called for government-funded research to become a priority, noting that it would promote more flexibility in the sharing of research data and results.

39. Several delegations favoured the establishment of inclusive and open databases of information on marine genetic resources. They stated that there were tools available in the public domain at the global level to access marine biodiversity and genetic resources data, including major networking projects bringing together geo-referenced datasets, which needed to be further developed. It was also important to address the need for taxonomic expertise, which facilitated the integration of biodiversity data and the networking of independent datasets. The need to improve the consistency of data was furthermore highlighted. A suggestion was made to require the inclusion of information regarding the source location of genetic resources in databases, so as to also address issues regarding the illegal exportation of such resources.

(c) Commercialization and other aspects

40. Some delegations underlined the importance of considering the time frame and investment required in order to realize benefits arising from the commercialization

of marine genetic resources. It was explained that it generally takes 15 to 20 years from the time a lead compound is identified until the commercialization of a product, and that there were no guarantees that a lead would have ultimate commercial value. It was further noted that "biodiscovery" was a long-term, high-risk and expensive activity and that the potential for investment from industry was dependent on keeping investment risks relatively low. The view was expressed that Governments needed to provide incentives for research, as opposed to disincentives that increased commercial risk.

41. Several delegations underlined that partnerships between Governments and industry would help to enhance the realization of the potential of marine genetic resources. It was noted that such partnerships would also ensure that the background work done by industry and the resulting knowledge, which could often be excluded from the public domain where intellectual property rights were involved, would be publicly available.

42. Several delegations highlighted the importance of creating an enabling environment for the collection of marine genetic resources. The view was expressed that across the diversity of users, there was a common desire to have a legal framework that would provide certainty or predictability before undertaking research in the marine environment. Such a framework would have to be flexible to ensure continued knowledge gathering and scientific understanding, while supporting the sharing of benefits associated with marine genetic resources.

43. Some delegations considered that an enabling environment was also needed for activities in deep seabed areas including from the commercial point of view. It was suggested that clear regulatory frameworks could encourage companies to operate in areas beyond national jurisdiction, counterbalancing the significant financial investment and advanced technology needed for deep-sea activities.

44. The importance of access and benefit-sharing with regard to marine genetic resources was highlighted by several delegations. In relation to benefit-sharing and capacity-building, it was suggested to take advantage of the expertise and work already done in international forums, including under the Convention on Biological Diversity and the International Treaty on Plant Genetic Resources for Food and Agriculture. It was also noted that international negotiations on access and benefit-sharing could provide an opportunity to raise the profile of marine biotechnology research and for the marine sector to be actively engaged in that regard.

(i) Intellectual property rights

45. The opportunity for developing countries, including those with traditional knowledge, to derive benefits from intellectual property protection was highlighted. It was noted that WIPO provided technical and legal assistance and its activities included programmes aimed at improving intellectual property infrastructure and human resources development in developing countries. In addition, a voluntary fund had been established to facilitate the participation in the Intergovernmental Committee of indigenous communities, the owners of traditional knowledge.

46. Several delegations noted that patents were one of the most popular, but not the only means for the protection of inventions related to marine genetic resources. Other methods included trademarks, which could also allow consumers to give priority to native products.

47. With respect to patents, it was noted by some delegations that existing life forms were not novel and that therefore the applicability of the patents regime of WIPO could be questioned. Different views were expressed on the role of patents in promoting innovation, information-sharing, transfer of technology and sharing of the benefits arising out of the utilization of marine genetic resources. Some delegations were concerned that the application for intellectual property rights may essentially result in less knowledge being available in the public domain. Some delegations further highlighted the issue of ownership of research results as an important consideration.

48. Some delegations stressed the usefulness of databases of arrangements on access and benefit-sharing, and of prior art and traditional knowledge, in particular for enabling national patent offices to avoid issuing patents that risked "misappropriating traditional knowledge". It was noted that in some cases accusations of such misappropriation had been fuelled by a handful of patents which had been contested and rescinded, and where patents had been granted because the examiner did not have information regarding the relevant traditional knowledge (see also paras. 63-65 below). In that respect, some delegations emphasized the need to ensure that indigenous people received fair treatment in relation to decisions over resources and that relevant traditional knowledge was translated into commonly understood scientific terms.

49. Regarding the possibility of developing an international patent system for marine genetic resources, it was noted that patents were granted by national authorities. However, discussions were ongoing with regard to the creation of an international patent arrangement. The Patent Cooperation Treaty, which made it possible to seek patent protection for an invention simultaneously in several countries, was referred to. Delegations' attention was also drawn to ongoing discussions within WIPO and the World Trade Organization, among others, on the merits of an international system for disclosure of the source or origin of genetic material.

(d) Law and policy related to marine genetic resources activities within and beyond areas of national jurisdiction

50. A number of delegations raised legal issues related to marine genetic resources within and beyond areas of national jurisdiction. It was stressed that issues concerning such resources in areas within and beyond national jurisdiction should be dealt with separately.

51. Delegations emphasized that the United Nations Convention on the Law of the Sea established the legal framework within which all activities in the oceans and seas were to be carried out. Several delegations further underlined that the Convention should be fully implemented and its integrity preserved.

52. Some delegations highlighted the Convention on Biological Diversity as constituting the relevant legal framework for marine genetic resources. They recalled that the objectives of the Convention on Biological Diversity were the conservation of biological diversity, the sustainable use of its components and the fair and equitable sharing of the benefits arising out of the utilization of genetic resources, including by appropriate access to those resources and by appropriate transfer of relevant technologies, taking into account all rights over those resources and to technologies, and by appropriate funding. They pointed out that article 22 of

the Convention established that it was to be implemented with respect to the marine environment consistently with the rights and obligations of States under the law of the sea.

(i) Definitions

53. A number of delegations noted that the use of some terms in relation to marine genetic resources needed to be clarified (see also para. 64 below). For example, while the term "marine genetic resources" was not used in the United Nations Convention on the Law of the Sea, its general principles applied to such resources, as did the provisions of other relevant instruments such as the Convention on Biological Diversity. In the view of some delegations, the definition of marine genetic resources was becoming increasingly important when considering benefit-sharing arrangements.

54. With regard to the use of the term "bioprospecting" in paragraph 145 of the Secretary-General's report on oceans and the law of the sea (A/62/66), several delegations expressed the view that this was essentially a marine scientific research activity that, as such, was regulated by the relevant provisions of the United Nations Convention on the Law of the Sea, namely, Part XIII and, in what relates specifically to areas beyond national jurisdiction, by article 143. These delegations recalled that it had been pointed out during the fifth meeting of the Consultative Process that the Convention did not provide a definition of marine scientific research and did not mention "bioprospecting" and that the distinction between pure and applied marine scientific research had never been accepted universally, since there was no perceivable difference in the activity or method. Regret was expressed that this view had not been clearly reflected in the Secretary-General's report.

55. Nonetheless, several delegations used the term "bioprospecting" during the discussions. A view was expressed that it would be difficult to distinguish between scientific investigation and "bioprospecting" and that "bioprospecting" also increased scientific knowledge and greatly benefited humankind. In that regard it was recalled that in accordance with the United Nations Convention on the Law of the Sea, all States had the right to conduct MSR; therefore, the development and conduct of such research on marine genetic resources both within and beyond areas of national jurisdiction ought to be promoted and facilitated and unnecessary regulations on "bioprospecting" thus avoided. Some delegations pointed out that the principles governing marine scientific research in the Convention also applied to "bioprospecting", e.g., article 241.

(ii) Regulatory framework at the national level

56. Concerning the legal regime applicable to marine genetic resources in areas within national jurisdiction, a number of delegations underlined that according to the United Nations Convention on the Law of the Sea, coastal States had sovereignty or sovereign rights with regard to the exploration, exploitation, conservation and management of natural resources.

57. The view was expressed that in areas within national jurisdiction, Parts V and VI of the Convention provided the framework for the conservation and management of marine living resources, which included genetic resources. The application of the provisions of the Convention on the conservation and management of marine living resources in the exclusive economic zone would also imply the application of the

provisions on total allowable catches and on the allocation of surplus to other States, which might not be appropriate for marine genetic resources.

58. Several delegations emphasized the importance of establishing practical legal and regulatory frameworks at the national level, which would encourage and enable research and "bioprospecting" activities and the conservation of marine genetic resources. It was suggested that such frameworks provided clarity regarding ownership and rights to utilize such resources. Other delegations indicated the need to also provide for the protection of vulnerable ecosystems, as well as information and benefit-sharing.

59. Some delegations suggested that Governments needed to reduce unnecessary regulatory burden, including ensuing transaction costs at the national level, in order to make research related to marine genetic resources more attractive. The importance of legal certainty in the collection process (owing to downstream commercial risk) was highlighted, especially concerning ownership, protection of investment and well-defined benefit-sharing arrangements. Codes of conduct, standards and memorandums of understanding could encourage compliance, but confusing regulatory schemes could cause researchers to move to other jurisdictions. Permit processes should be clear and Governments should identify a focal point for researchers seeking access to resources.

60. Some delegations expressed the view that there was a need to develop clear national regulations for the collection of samples by foreign actors. The regulations should provide for the issuance of permits and be supportive of the sharing of research results on the basis of the Bonn Guidelines on Access to Genetic Resources and Fair and Equitable Sharing of the Benefits Arising out of their Utilization.

61. Other delegations noted that it was not easy to distinguish between research and commercial uses of resources. It was pointed out illustratively that the Philippines and Australia had adopted different rules distinguishing between commercial uses and academic purposes. States needed to have a clear understanding and assessment of their needs at the national level so that that they could devise an appropriate policy on marine genetic resources and establish relevant legal frameworks, particularly since most activities related to those resources occurred within exclusive economic zones.

62. The value of model regulations or model agreements between operators and coastal States for research on marine genetic resources was stressed by several delegations. Some delegations also noted the advantage of international standards on the expected benefits from the commercialization of marine genetic resources, for which the Bonn Guidelines and the WIPO model contract database on access and benefit-sharing arrangements were useful examples. Some research institutes, such as the National Cancer Institute in the United States of America, had also developed model agreements.

63. Some delegations expressed concern over "biopiracy", which they considered to include the illegal extraction of marine genetic resources and the associated traditional knowledge from areas within national jurisdiction and even from beyond areas of national jurisdiction. Concern was also expressed in relation to other issues, such as the inadequate or possibly unjust compensation of rightful owners of resources used for commercial purposes, breach of contract in relation to the acquisition or use of traditional knowledge and "bioprospecting" without the

consent of local communities. "Biopiracy" was considered a particular problem for developing countries, as a result of lack of knowledge regarding marine genetic resources, the insufficient clarity of national and international legal regimes addressing "bioprospecting" and the difficulty of enforcing existing laws and regulations. The latter particularly affected small island developing States as a result of their difficulties in monitoring their exclusive economic zones.

64. Other delegations pointed out that there was no accepted definition of "biopiracy". Any such definition should address activities undertaken in contravention of an existing law or regulation, and not merely "unethical" behaviour. Accordingly, they argued that there could be no "biopiracy" in areas beyond national jurisdiction. It was suggested that control over nationals and flag State control measures could address issues in relation to marine genetic resources located in areas beyond national jurisdiction.

65. Other delegations pointed out that "biopiracy" could also be addressed through the development of a clear legal and regulatory framework which took into account the interests of all stakeholders.

66. Some delegations noted that the high risks and financial resources involved in the commercialization of marine genetic resources created natural incentives for companies to act responsibly, to manage significant legal and commercial risks, and to conduct research in compliance with national laws and regulations in order to maintain a good reputation and for trademarking purposes. The view was expressed that to succeed, "biodiscoverers" needed to understand the needs of future partners, in particular with regard to due diligence. Again, this showed a common interest in transparent regimes.

(iii) Law and policy at the international level

67. Some delegations welcomed the initiatives of scientists — for example, the InterRidge code of conduct for research at deep-sea hydrothermal vents and programmes such as Mar-Eco, an element of the Census of Marine Life — which demonstrated that scientists had an incentive to protect the sites they studied. They considered codes of conduct an effective means for promoting responsible research practices. Scientists had responded favourably to the InterRidge code of conduct at a recent Workshop of the Commission for the Protection of the Marine Environment of the North-East Atlantic (OSPAR Commission), but there was interest in more detailed guidelines given the sensitivity of hydrothermal vents. It was suggested that there was a need for greater publicity and endorsement of such codes.

68. The need for further work in assessing the effectiveness of codes of conduct, and in identifying relevant stakeholders was highlighted. Existing codes of conduct could be built upon to develop specific codes of conduct for other types of activities, such as "bioprospecting", and other vulnerable marine ecosystems, such as cold seeps. While the general principles of existing codes could apply, specific provisions should be developed to take account of different ecological conditions and research methods, among others. Some examples of such codes already existed, including provisions on "bioprospecting" in the legislation of Queensland, Australia.

69. Some delegations queried whether international codes of conduct for scientists could be adopted in order to address generally the conduct of marine scientific research and "bioprospecting" activities. In response, it was noted that the OSPAR

Commission was in the process of developing a code of conduct. Some delegations acknowledged that in light of its role in defining good research practices, the scientific community had a useful role to play in any process aimed at addressing research activities in the marine environment. The role of Governments in facilitating agreement among scientists with different research purposes and in promoting best practices was also highlighted. It was further noted that there was a need for scientists and Governments to work more closely together in this respect.

70. Owing to the voluntary nature of codes of conduct, some delegations enquired about incentives for scientists to abide by their principles and provisions. One delegation indicated that government oversight was in place in its country and, to some extent, future funding from the Government could be jeopardized by lack of compliance with such codes. It was also noted that scientists who took samples without permission from exclusive economic zones were usually prohibited from returning to the area, and scientists who failed to cooperate were sanctioned through alienation from the scientific community.

71. With regard to marine genetic resources located in areas beyond national jurisdiction, several States reiterated their view that all resources of the Area, including marine genetic resources, were part of the "common heritage of mankind". These States argued that activities related to biological resources, including marine genetic resources, of the deep seabed beyond areas of national jurisdiction should be carried out for the benefit of mankind as a whole on the basis of the relevant principles of the United Nations Convention on the Law of the Sea and its provisions governing marine scientific research and the Area. They argued that the regime applicable to marine genetic resources should not be equated to that governing marine living resources in the high seas. These delegations thus noted that access and benefit-sharing could not be based on contractual approaches relevant to areas within national jurisdiction, but rather on principles of the common heritage of mankind. Marine genetic resources should be utilized equitably and efficiently in accordance with the fourth preambular paragraph of the Convention.

72. A view was further expressed that the principle of the common heritage of mankind predated the Convention and that its codification in the Convention did not reduce its significance and impact. Consequently, article 133 of the Convention, could not be interpreted as excluding marine genetic resources in the deep seabed beyond areas of national jurisdiction from the umbrella of the common heritage of mankind. However, notwithstanding the fact that it was clear under the Convention that marine genetic resources were part of the common heritage of mankind, any future implementing agreement to the Convention should clarify that point.

73. In addition, some delegations noted that marine genetic resources beyond areas of national jurisdiction could thus not be subject to free access and private ownership, as those models were not equitable. In the context of sustainable development, several delegations recalled the obligation in the Convention to cooperate in the conservation and management of marine resources and expressed the view that States whose nationals exploited marine resources were obliged to cooperate in accordance with principles of international law, especially the principle of equal sovereignty of States.

74. A different view was expressed by other delegations with regard to activities related to marine genetic resources in areas beyond national jurisdiction, namely that these were governed by customary international law as reflected in the United

Nations Convention on the Law of the Sea. They stated that living marine resources were not covered by the provisions of Part XI pertaining to the Area, and fell outside of the mandate of the International Seabed Authority, except insofar as those resources were part of the marine environment that must be protected in connection with mining activities. For these states, the relevant provisions in the Convention applicable to marine genetic resources were contained in Part VII on the high seas, in particular section 2, articles 117 and 118, and in Parts XII, XIII and XIV.

75. Although sharing the view that marine genetic resources in areas beyond national jurisdiction did not fall within the definition of the resources of the Area, several delegations however considered that the United Nations Convention on the Law of the Sea did not provide a clear comprehensive framework for the management of marine genetic resources in areas beyond national jurisdiction. They proposed that a comprehensive and practical framework for exploring and exploiting all marine genetic resources in areas beyond national jurisdiction should be developed by the international community within the framework of the Convention in order to protect and preserve those resources and for access and benefit-sharing. They stated that they were willing to consider, without prejudice to the sovereign rights and jurisdiction of coastal States in maritime zones under their jurisdiction, a more formal regulation of all marine genetic resources in areas beyond national jurisdiction (both for the water column and for the deep seabed area) within a broader, integrated approach to conservation and sustainable use of marine biodiversity, taking into account the legitimate interests of all States.

76. The view was expressed that there should first be a focus on drafting specific standards for access to marine genetic resources in areas beyond national jurisdiction and benefit-sharing before addressing the legal regime relating to those resources.

77. A representative of a non-governmental organization expressed the view that a new agreement should be negotiated under the auspices of UNCLOS to regulate the impact of exploration and exploitation of deep sea marine biodiversity for scientific and commercial purposes in areas beyond national jurisdiction. Such an instrument should promote an integrated, precautionary and ecosystem-based approach to high seas biodiversity protection.

78. Some delegations cited the Antarctic Treaty System as a model for a possible legal regime addressing marine genetic resources in areas beyond national jurisdiction, in particular the notification and information-sharing system established by the Treaty. Other delegations cautioned against such an approach in view of the non-comparability of legal regimes.

79. Some delegations stated that they were not convinced of either the need for or desirability of a new international regime to protect marine genetic resources in areas beyond national jurisdiction, and highlighted the risks posed in inhibiting research. They stated that they would oppose a regime that might interfere with high seas freedoms. They noted that the existing legal framework provided by the Convention and other relevant instruments offered the necessary flexibility for the conservation and sustainable use of marine genetic resources and that those instruments should be implemented at national and international levels.

80. It was also pointed out that it was not necessary to manage all hydrothermal vent sites and other deep sea sites, because scientists themselves had inherent

incentives to protect such sites. Reference was made to the InterRidge code of conduct and Mar-Eco. It was underlined that a code of conduct was an effective and useful protection mechanism.

81. A number of delegations argued that issues relating to marine genetic resources in areas beyond national jurisdiction should be further discussed in the context of the mandate of the second meeting of the Ad Hoc Open-ended Informal Working Group established by the General Assembly to study issues relating to the conservation and sustainable use of marine biological diversity beyond areas of national jurisdiction.

(e) Vulnerabilities, threats and anthropogenic impacts

82. Delegations pointed out that the conservation and sustainable use of marine genetic resources presented a multitude of challenges. Several States expressed concern regarding the vulnerability of those resources, including in areas beyond national jurisdiction, to direct and indirect threats stemming, inter alia, from pollution, climate change, habitats destruction, physical degradation, overexploitation of living resources and the cumulative effects of repeated research and exploitation in certain sites.

83. It was observed that knowledge about the vulnerability and resilience of marine micro-organisms was scarce, but that the high level of endemism and vulnerability of some marine ecosystems, such as hydrothermal vents and seamounts, must be taken into consideration alongside dynamisms when considering conservation issues. Furthermore, natural events and geophysical processes also caused changes in some of the dynamic environments where marine genetic resources were found, in particular hydrothermal vents.

84. In response, some delegations noted that marine scientific research activities relating to marine genetic resources generally posed a minimal risk to the marine environment, given new technology. It was explained that since in most cases further in situ collection was not necessary once the genetic information was extracted from microbes, micro-organisms would not be depleted. In addition, sampling involved small amounts of material or the species themselves quickly repopulated.

85. The difference between the seeming lack of impact of collection of micro-organisms from the water column and the potentially damaging impacts of collection in vulnerable seabed habitats was highlighted. Collection in vulnerable habitats could pose a threat, as the distribution of micro-organisms was largely unknown. With regard to macro-organisms, it was explained that samples of 50 to 100 grams were usually sufficient and it was possible to harvest parts of the species in such a way as not to cause mortality. However, once a lead was identified, and since some compounds could not be synthesized, there might be a need for a second round of collection on a larger scale. Some delegations concluded that this kind of activity was a threat and expressed the view that it should not be undertaken without an environmental impact assessment.

86. It was indicated that technologies were needed to foster sustainability and prevent overharvesting of natural resources. In that context, the advantages and disadvantages of natural and synthetic products were discussed, including the role of synthetic products, biosynthesis and aquaculture. It was observed that there were

ethical issues associated with biosynthesis which might raise the need for consultations with the public. Some consumer preferences for natural products in food ingredients, herbs and supplements were also noted.

87. Delegations addressed a number of questions on the potential impact of climate change on marine genetic resources. It was stated that climate change was likely to have an impact on marine micro-organisms, but the impact was largely unknown owing to the current lack of knowledge concerning their distribution, composition, diversity and dynamism.

88. With regard to fisheries as a potential source of impact on marine genetic resources, some delegations referred to General Assembly resolution 61/105, which addressed the effects of destructive fishing practices on vulnerable marine ecosystems, as well as the recent adoption of interim measures regarding the protection of vulnerable marine ecosystems by the participants in the negotiations for the proposed regional fisheries management organizations in the south Pacific and the north-west Pacific. Other examples of recent policymaking efforts to address issues relating to the impacts of fishing on vulnerable marine ecosystems were also highlighted, including the work of FAO to develop technical guidelines for the management of deep seas fisheries in the high seas. With regard to illegal, unregulated and unreported fishing, it was noted that the FAO Committee on Fisheries had agreed to develop a new legally binding instrument on port State control and to do further work on delineating standards on flag State responsibilities.

89. In that respect, some delegations emphasized the importance of effective flag State implementation for the conservation of marine genetic resources. Several non-governmental organizations expressed the view that without the "genuine link", specified by article 91 of the United Nations Convention on the Law of the Sea, the ability of the flag State to exercise effective control was severely curtailed. They proposed that the United Nations consider the possibility of developing an implementing agreement to ensure that flag States effectively discharged their obligations under the Convention, including with respect to the preservation and protection of the marine environment.

90. The importance of establishing a population genetic structure for the elaboration of principles for the management of marine biodiversity, including marine genetic resources, in areas beyond national jurisdiction was highlighted.

91. A delegation presented recent developments in the South-East Asia region, particularly in relation to the genetic identification of pelagic fish species and sea turtles, for which stock enhancement studies were being carried out. In that regard, a representative of a non-governmental organization explained the importance of the 100 million-year-old genetic lineage of sea turtles and underlined the importance of protecting declining and endangered populations of sea turtles, including through the establishment of a "biological corridor" to protect leatherback turtles while they were transiting.

92. A representative of a non-governmental organization drew attention to anthropogenic ocean noise as an increasingly significant threat to biological diversity and marine genetic resources and called upon States and others to better assess the impact of anthropogenic ocean noise and to prevent, reduce and control such noise in accordance with the precautionary approach. Enhanced coordination

and cooperation at the intergovernmental and inter-agency levels was also called for. The representative suggested that the Consultative Process should address the topic of ocean noise in 2009.

93. The attention of the meeting was drawn to the need to take further action at the national and international levels to address shark finning. A representative of a non-governmental organization expressed the view that there was a need to develop a harmonized global policy for shark fisheries which included a ban on finning.

94. The view was expressed that, while determining the baseline for conservation measures for marine genetic resources would be difficult in view of the naturally occurring changes in the biosphere, the establishment of marine protected areas, including in areas beyond national jurisdiction, could facilitate this process. Some delegations stated that MPAs, including networks of such areas, were one of the tools that could be used for the conservation and sustainable use of marine biodiversity, in particular of vulnerable marine ecosystems. Marine protected areas included multiple use areas and areas where extractive activities were prohibited. The need for involving relevant stakeholders when setting up such areas was highlighted.

95. Empowerment of coastal communities through some form of ownership or husbandry of marine resources, with a mechanism for oversight, was considered by some delegations as a possible incentive for conservation and sustainable use. It was noted, however, that conservation should be made more profitable than exploitation. The need for alternative livelihoods for coastal communities faced with downward trends in the biomass of natural resources was also highlighted. In that regard, it was noted that research on marine genetic resources could provide opportunities in regions where subsistence foods were jeopardized by climate change and persistent organic pollution.

96. Several delegations supported the development of measures to ensure the conservation and sustainable use of marine biological diversity in areas beyond national jurisdiction, including marine genetic resources, based on the precautionary and ecosystem approaches. They pointed out that effective environmental management included several options; of these, the development and adoption of guidelines, codes of conduct and other voluntary tools might initially be tried. Other delegations did not support such voluntary approaches.

97. The meeting was informed of the activities of organizations, bodies and programmes relating to marine genetic resources. The representative of the United Nations Environment Programme (UNEP) provided information on programmes and activities related to the conservation and sustainable use of cold-water corals and related environments. The UNEP Coral Reef Unit and partners had prepared a number of reports and papers of relevance to marine genetic resources. UNEP was also participating in the multidisciplinary European Union research project entitled "Hotspot ecosystem research on the margins of European seas". In addition, UNEP was contributing to a regular process for global reporting and assessment of the state of the marine environment, including socio-economic aspects. The latter aspect would include current and foreseeable uses of marine resources, including "bioprospecting" and utilization of marine genetic resources. The representative of FAO recalled that the FAO Code of Conduct on Responsible Fisheries referred, in its article 9, to the need to conserve and to use genetic diversity in a sustainable manner. He highlighted that at the recent meeting of the Commission on Genetic

Resources for Food and Agriculture there had been consensus on the need for coherent policies related to marine genetic resources and for genetic mapping. The representative of the United Nations University provided information on the activities of the Global Marine Governance Project of the Institute of Advanced Studies, e.g., the assessment of biological prospecting in the Antarctic, the Arctic and the Pacific Island countries, and capacity-building to enhance implementation of the ecosystem approach. The representative of IOC referred to the reports it had published together with UNEP on the vulnerability of corals and to the expert workshop on biogeographic criteria for the classification of open and deep-sea areas it had organized jointly with IUCN in January 2007 with the support of the Governments of Australia, Canada and Mexico and the J. M. Kaplan Fund. Furthermore, IOC, in cooperation with DIVERSITAS — an international programme of biodiversity science — had held an expert session to develop a programme on systematic observations of long-term changes in marine coastal biodiversity, including microbial diversity, in a number of sites around the world.

98. It was pointed out that the International Seabed Authority was in the process of formulating environmental regulations for seabed mining activities. Subsequently, the Secretary-General of the Authority, Satya Nandan, informed delegates of the activities the Authority was undertaking to protect the marine environment from prospecting, exploration and exploitation of mineral resources in the Area. In particular, he noted the regulations applicable to the contractors, the monitoring of potentially harmful activities, the setting of environmental baselines and the publication of studies.

(f) Capacity-building and transfer of technology

99. With regard to the current and future challenges related to the conservation and sustainable use of marine genetic resources, a number of delegations stressed the importance of capacity-building and international cooperation.

100. Several delegations noted with concern the lack of technical and scientific expertise in many developing States. They pointed out that the technology gap between developed and developing countries posed significant difficulties for developing countries wishing to access the benefits of marine genetic resources, especially countries without a minimal capacity base. For those countries, access to information and the transfer of technology and resources were critical.

101. Developing countries also faced scientific capacity challenges, including difficulties in attracting and retaining qualified marine scientists and limited research facilities. With regard to the lack of expertise in taxonomy, a widespread problem which also affected developed States, it was suggested, for example, that Governments could address the issue by increasing the offer of scholarships and training opportunities.

102. Information sharing, capacity-building and transfer of technology, including through developing States' participation in research activities, were considered essential to address the general lack of scientific and other knowledge on marine genetic resources in developing countries. Some delegations noted the importance of paying particular attention to the special needs of small island developing States with respect to transfer of technology.

103. Several States underlined the need for cooperative mechanisms between developing and developed States to enhance capacity-building and the transfer of technology. Some delegations referred to examples of successful regional initiatives that promoted not only transfer of technology, but also institution-building. It was emphasized that capacity-building efforts should not be only ad hoc and transitory, but should lie at the heart of systematic collaboration among States so that they would be sustainable, and based on mutual trust between partners.

104. It was also noted that a number of Global Environment Facility projects were aimed at helping developing States gain access to genetic resources and share the benefits of their utilization, and that States and national research institutes were also cooperating at the bilateral level.

105. It was suggested that in view of the limited financial resources available to assist States, a needs assessment and identification of priorities at the national level should precede the determination of the most appropriate measures at the international level.

106. It was emphasized that the participation of developing countries in activities related to marine genetic resources depended on the availability of scientific information, the flow of scientific data and the transfer of knowledge. Support was expressed for the establishment and maintenance of databases. In view of the potential of open databases as a source of information, it was emphasized that developing countries should first be trained in the use of such complex tools in order to take full advantage of their capacity-building potential. To that end, the Division for Ocean Affairs and the Law of the Sea could assist developing States by identifying websites where information on sources of assistance, fellowships and funding was to be found. Some delegations also noted the opportunity provided by the meeting of the Consultative Process to better understand and appreciate the value of marine genetic resources.

107. A delegation highlighted the "International Cooperative Biodiversity Groups Programme", whose mandate was to integrate three complementary goals: (a) improvement of human health through drug discovery; (b) creation of incentives for conservation of biodiversity; and (c) promotion of scientific research that contributes to sustainable economic activity. It was noted that projects currently under way in Africa, Latin America, South-East and Central Asia and the Pacific Islands region created opportunities for capacity-building, transfer of technology and training.

108. Some representatives of international organizations called attention to their research and capacity-building programmes including those related to marine genetic resources. For example, the representative of the United Nations Conference on Trade and Development stated that its BioTrade Initiative sought to promote trade and investment in biological resources in support of sustainable development, in line with the three objectives of the Convention on Biological Diversity. Through the establishment of partnerships with national and international programmes, it sought to strengthen the capacity of developing countries to enhance the production of value-added products and services derived from biodiversity for both domestic and international markets. The Secretary-General of the International Seabed Authority also noted the capacity-building activities of the Authority through the organization of workshops, publication of materials and the recent establishment of an endowment fund for research in the Area.

Agenda item 4: Inter-agency cooperation and coordination

Oceans and Coastal Areas Network

109. The Deputy Coordinator of the Oceans and Coastal Areas Network (UN-Oceans) presented the recent activities of UN-Oceans, the mechanism for coordination and cooperation among the secretariats of the organizations of the United Nations system related to oceans and coastal areas. She referred delegations to the matrix entitled "Summary of activities of UN-Oceans 2006-2007", which contained information on the work undertaken by UN-Oceans mainly through its ad hoc task forces, and on the activities of the United Nations system in relation to marine genetic resources. She enumerated the various task forces, pointing out those that had been discontinued because they had reached the end of their mandate and those still in existence, such as the ad hoc task force on biodiversity beyond areas of national jurisdiction, which had the Division for Ocean Affairs and the Law of the Sea and the secretariat of the Convention on Biological Diversity as its lead agencies. That task force would continue to coordinate information and input to the General Assembly and the Convention. She noted that the task force was at present assisting in the preparation of the report of the Secretary-General to serve as a basis for discussions at the second meeting of the Ad Hoc Open-ended Informal Working Group to study issues relating to the conservation and sustainable use of marine biological diversity beyond areas of national jurisdiction, to be held in 2008.

110. In addition, she informed delegations that a new time-bound task force on marine protected areas and other area-based management tools had been established during the fifth meeting of UN-Oceans, held in Paris on 21 and 22 May 2007. Its objective was to strengthen collaboration and coordination among United Nations organizations dealing with marine protected areas, in particular in addressing the goals and targets of the Convention on Biological Diversity and the World Summit on Sustainable Development. The secretariat of the Convention, IOC, FAO and UNEP were the co-leaders of the task force and the Division for Ocean Affairs and the Law of the Sea, the United Nations Development Programme, IMO, the World Bank and the International Seabed Authority had expressed an interest in participating.

111. Regarding the United Nations Atlas of the Oceans, she noted that it contained 4,000 entries on a range of themes maintained by a network of 42 volunteer expert editors. She highlighted that while the feedback had been extremely favourable on this valuable initiative of the United Nations system of organizations, with 100,000 hits from 120 countries per month, financial uncertainty was threatening the continued viability and further development of the Atlas, which therefore needed support from States and other interested parties.

112. In the ensuing discussions, the need for transparency with regard to the activities of UN-Oceans was emphasized and questions were raised relating to the participation of non-governmental organizations. Some delegations complimented UN-Oceans for providing an informative matrix of its activities and for its practice of discontinuing redundant task forces. It was pointed out, however, that it would be appreciated if reports on the activities of UN-Oceans could be made to States more regularly and in advance of the meetings of the Consultative Process, to enable proper consideration.

113. The Deputy Coordinator of UN-Oceans clarified the rules under which the Network operated, noting that while the terms of reference concerning the establishment of task forces did allow for participation of relevant non-United Nations actors, the members of UN-Oceans had decided not to invite non-United Nations actors to participate in the task forces that had been established. Members of UN-Oceans reported to their constituencies on its activities, including through the meetings of the Consultative Process. In addition, UN-Oceans had agreed to revitalize its website and would post timely information on its activities.

Regular process for global reporting and assessment of the state of the marine environment, including socio-economic aspects

114. On behalf of the lead agencies, UNEP and IOC, the representative of UNEP updated the meeting on the progress of work in relation to the start-up phase of the regular process, the "assessment of assessments". He informed the meeting that a second meeting of the Ad Hoc Steering Group established pursuant to General Assembly resolution 60/30 had been held prior to the eighth meeting of the Consultative Process, on 22 June 2007, under the chairmanship of Peter Harris of Australia. He called attention to the report of the meeting and the decision of the steering group.

115. He referred to General Assembly resolution 61/222, in which the Assembly had invited States and other entities to financially support the timely implementation of the start-up phase, and pointed out that less than 50 per cent of the required resources had been mobilized. Current funds had been mobilized through the regular programme budget of the UNEP Division of Early Warning and Assessment and donations from Belgium, Canada, the Netherlands, the Republic of Korea and the United States of America.

116. In spite of the financial constraints, the first meeting of the group of experts had been convened at headquarters UNESCO in Paris from 28 to 30 March 2007. Of the 20 experts selected and approved by the Ad Hoc Steering Group, 17 had attended the meeting, which had been co-chaired by Kwame Koranteng of Ghana and Jacqueline McGlade from the United Kingdom of Great Britain and Northern Ireland. The experts, who would be mostly working via e-mail, had agreed on a clear conceptual approach for the "assessment of assessments" and on a schedule of activities from 2007 up to the completion of the start-up phase in mid-2009. At the end of its work the group of experts intended to produce a report to be structured around: (a) a state-of-the-assessment landscape for oceans and coasts; (b) an evaluation of existing assessments; and (c) a framework and options for the regular process. The latter would consider a possible institutional framework, capacity-building, cost analysis, etc. In accordance with its terms of reference, the group of experts was aiming to develop guidelines and methodologies and to identify best practices as to how a regular assessment should be conducted.

117. The representative of UNEP noted that two additional meetings of the Ad Hoc Steering Group were planned for the future, to meet back-to-back with meetings of the Consultative Process, while the group of experts would hold four more meetings before the final report was completed by mid-2009. It was expected that by November 2008, the group of experts would have produced a first draft of the first two parts of the report for comments by States.

Agenda item 5: Identification of issues for further consideration

118. On the basis of the list of issues contained in part C of the reports on the work of the Consultative Process at its fourth to seventh meetings (A/58/95, A/59/122, A/60/99 and A/61/156), the Co-Chairpersons prepared a composite streamlined list of issues that could benefit from attention in the future work of the General Assembly (see www.un.org/depts/los/consultative_process/consultative_process.htm). The issues were presented in the same order in which they appeared in part C of the reports. Additional issues proposed by delegations during the eighth meeting are set out in paragraph 123 below.

119. The Co-Chairpersons noted that the topic for the ninth meeting of the Consultative Process — "Maritime security and safety" — had already been decided by the General Assembly. In order to enable early and effective planning for that meeting, they requested that States, through the Secretariat, indicate in writing well in advance of the meeting what issues could be discussed within such a broad topic. Support was expressed for the outline of the topic as proposed by Australia during the informal consultations of the General Assembly on the draft resolution on oceans and the law of the sea. It was further noted that the presentations made at the 31st Virginia Law of the Sea Conference, held in Heidelberg, Germany, in 2007 on the theme of "Legal challenges in maritime security", could be considered.

120. The Co-Chairpersons encouraged early identification by the General Assembly of the topics to be discussed by the Consultative Process in the next few years notwithstanding the fact that the effectiveness and utility of the Process would be reviewed at the sixty-third session of the Assembly. Some delegations proposed that the tenth meeting of the Process in 2009 could focus on combating illegal, unreported and unregulated fishing, while a delegation suggested "social aspects of oceans and the law of the sea" as a topic.

Agenda item 6: Consideration of elements to be suggested to the General Assembly

121. On 29 June 2007, the meeting commenced its formal consideration of the possible elements proposed by the Co-Chairpersons, following an earlier round of informal comments submitted in writing and/or raised during the discussions. Several amendments were proposed and tentative agreement was reached on some of the elements (see paragraphs 1 to 3, 5 to 10 and 12 to 15 of the Co-Chairpersons' possible elements annexed to the present report). However, in the absence of an agreement on paragraph 4, the meeting was unable to proceed to reach overall agreement on the elements to be suggested to the General Assembly. Furthermore, detailed discussions had not been completed on paragraphs 11 and 20 and the proposed elements contained in paragraphs 17 to 19 and 21 had not been discussed.

122. The Co-Chairpersons' possible elements to be suggested to the General Assembly as presented in the annex represent the understanding of the Co-Chairpersons about the progress in the consideration of the elements at the conclusion of the eighth meeting of the Consultative Process and also reflect the spirit of proposals that were made.

Part B

Issues that could benefit from attention in future work of the General Assembly on oceans and the law of the sea

123. There was agreement that the list of issues identified at the seven previous meetings of the Consultative Process remained valid. Additional issues suggested at the eighth meeting were:

(a) Combating illegal, unregulated and unreported fishing;

(b) Ocean pollution — a constant and increasing challenge for marine conservation.

Annex

Marine genetic resources: Co-Chairpersons' possible elements to be suggested to the General Assembly

The Co-Chairpersons suggest that the General Assembly:

1. Note the abundance and diversity of marine genetic resources, their dynamic nature, their role as important constituents of marine biodiversity and their role in biogeochemical cycles and in sustaining life on Earth;

2. Also note the vulnerability of marine biological diversity, including marine genetic resources, posed by diverse threats and influences, including pollution, climate change, habitat destruction, destructive fishing practices, physical alteration to the marine environment and overexploitation;

3. Recognize that the 1982 United Nations Convention on the Law of the Sea sets out the legal framework within which all activities in the oceans and seas must be carried out;

4. Note discussion on the relevant legal regime on marine genetic resources in areas beyond national jurisdiction in accordance with the Convention, and call upon States to further consider this issue in the context of the mandate of the Ad Hoc Open-ended Informal Working Group to study issues relating to the conservation and sustainable use of marine biological diversity beyond areas of national jurisdiction, with a view to making further progress on this issue;

5. Recognize the important role of the Convention on Biological Diversity, which has as its objectives, to be pursued in accordance with its relevant provisions, the conservation of biological diversity, the sustainable use of its components and the fair and equitable sharing of the benefits arising out of the utilization of genetic resources;

6. Recognize that coastal States have sovereignty or sovereign rights, as appropriate, and duties with respect to resources, including marine genetic resources, in areas within national jurisdiction, in accordance with international law, in particular the Convention;

7. Note the importance of sharing, disseminating and using results of current marine scientific research as well as the need for further marine scientific research to understand the distribution, composition, vulnerability, resilience and ecological functions of marine genetic resources in marine biodiversity;

8. Note the importance of identifying and mapping biodiversity across all marine ecosystems for improving our understanding of the ecological functions, conservation needs and current and potential uses of marine genetic resources, in accordance with the Convention;

9. Recognize the current and potential benefits of research on marine genetic resources for understanding ecosystems services, environmental change and oceans processes, and note that the conservation and sustainable use of marine biological diversity and its components are a key requirement for safeguarding such benefits;

10. Also recognize the value of goods and services from marine genetic resources and the range of sectors, including food, health, industry and environmental remediation, that seek to explore the potential of marine genetic resources, and note

that the commercial development of marine genetic resources can often be a lengthy process that may involve risk, uncertainty and significant capital investment and further note that the conservation and sustainable use of marine biological diversity and its components are a key requirement for safeguarding such goods;

11. Recognize that there are several aspects of intellectual property regimes relating to marine genetic resources that need to be better considered, including in relation to disclosure of source of origin of marine genetic resources, links to traditional knowledge, impacts on the sharing of knowledge and implications for access and benefit-sharing, and note the ongoing discussions and expertise of relevant intergovernmental organizations, including the World Intellectual Property Organization and the World Trade Organization;

12. Encourage States and international organizations, including through bilateral, regional, and global cooperation programmes and partnerships, to continue in a sustainable and comprehensive way, when possible, to strengthen capacity-building activities, in particular in developing countries, in the field of marine scientific research, by training personnel, investing in facilities, providing research platforms and transferring environmentally sound technologies;

13. Recognize the fundamental role of taxonomy for the classification of marine organisms in research, data integration and conservation, and invite States and relevant international organizations to promote training and careers in taxonomy in order to address the shortage in taxonomic expertise, particularly in developing countries;

14. Invite States, relevant international organizations and stakeholders to promote further scientific cooperation and multidisciplinary research efforts, partnerships and public and private joint ventures in order to encourage research related to marine genetic resources;

15. Note the technological and financial challenges of marine scientific research on deep water ecosystems, and encourage States and scientific institutions to engage in further international collaborative opportunities and assistance for this work, to be conducted in accordance with international law;

16. Recognize the need to support collaborative efforts so that the potential of marine genetic resources in areas beyond national jurisdiction can be fully realized for mutual benefit, and emphasize the need to share the results of marine scientific research;

17. Encourage existing international efforts, such as the work of the Census of Marine Life and other ongoing relevant partnerships and initiatives, including those within the United Nations system, to systematically collect and integrate marine scientific data and information and make it publicly available, in accordance with international law, including the Convention;

18. Encourage States, in view of the endemism of some species and the vulnerability of many marine ecosystems, to ensure that any activities with respect to marine genetic resources that take place under their national jurisdiction or control is conducted sustainably, taking into account the ecosystem approach and the precautionary approach;

19. Recognize the mutual need among researchers, commercial interests and local communities for fair, transparent, predictable and effective frameworks for

accessing marine genetic resources in areas under national jurisdiction, and invite States to take appropriate steps to that end;

20. Encourage relevant organizations, institutions and researchers to consider adopting, as appropriate, codes of conduct, standards and technical guidelines for the sustainable exploration and sampling of marine genetic resources;

21. Invite States to use the Bonn Guidelines on Access to Genetic Resources and Fair and Equitable Sharing of the Benefits Arising out of their Utilization in areas under their jurisdiction.